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# THE AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT  
"AGRICOLAS." . . . . Virg.

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[NEW SERIES.]

## Food and the Philosophy of Animal Nutrition.

Messrs. Editors American Farmer :

That is a most wonderful transformation which converts the grass of the field into flesh and bone and muscle, and which changes inert inanimate bodies into living organisms possessed of feeling and action. Surely a phenomenon so marvelous should interest the intelligent and thinking mind.

Men and animals require for the construction of their bodies fourteen elementary bodies, viz: carbon, oxygen, hydrogen, nitrogen, lime, potash, sulphur, phosphorus, magnesia, soda, iron, chlorine, silica and manganese. All these are required to build up and nourish the system, and the system must obtain them all from its food. All the different organs of the body are nourished and built up from the constituents of the blood, and the blood upon an analysis is found to contain all of these elementary bodies. It is true that exceedingly minute quantities of some of them are required—nevertheless they are indispensable. Liebig, speaking of the necessity of all these elements, says: "It cannot be supposed that blood will be formed in the body of the animal, or milk in that of the cow, if their food fail in even one of the constituents necessary for the sustenance of the vital functions."

"The compounds containing nitrogen and sulphur, as well as the alkalies and phosphates, are constituents of the blood; but the conversion of the former into blood cannot be conceived without the presence and co-operation of the latter." One might naturally suppose that iron could hardly be a necessary constituent of food, yet it is an absolute necessity in the construction of the blood; for it is this element that imparts to the blood its dark rich color and its vigorous action. One might suppose also that soda could not be necessary, yet soda is required for the formation of the bile. The gastric juice of the stomach, which contains muriatic acid, is formed from the salt that we consume in our food. Carbon furnishes the combustible material that is consumed in the body to keep up the animal

heat. Oxygen and hydrogen, in the shape of water, supply the body with the necessary fluids. The phosphates go to build up the bony structure. Sulphur is required in the formation of the brain and hair. It is nitrogen that forms the nerves, tendons, muscles and sinews, and that gives strength and action to the whole system; and the lesser mineral elements have their appropriate places, and perform their appropriate functions in the body. A vast number and a great variety of the products of the earth are utilized for food for man, but there are very few that contain all the elements of nutrition. Milk and eggs contain them all, and milk and eggs constitute a perfect diet, and this is evident from the fact that the infant and the young animal live and grow upon the milk of the mother alone, and the young fowl in like manner grows and is perfectly developed on the contents of the egg.

Human food is divided into two distinct classes, viz: carbonaceous food or the *carbohydrates*, and albuminous food or the *albuminoids*, and these are again sub-divided into several varieties. Carbonaceous food is composed alone of the three gaseous bodies of carbon, oxygen and hydrogen. They contain no nitrogen and none of the mineral elements. They are imperfect food and are utterly incapable of supporting animal life alone, although they are indispensable adjuncts in the economy of animal nutrition. The object and mission of this class of food is to keep up the animal heat of the body, and for that purpose they are constructed mainly of carbon, a material that undergoes the process of combustion in the body of the animal, thereby engendering heat; just as heat is produced by the combustion of fuel in our domiciles. Animal heat is necessary to promote and keep up the circulation of the blood, which must be kept in the fluid state by heat. As soon as the blood is extracted from the body and cools it coagulates or becomes solid. In undergoing the process of coagulation the blood separates into two parts; the one called the clot and the other the serum. Without animal heat the blood would coagulate in the veins of the animal, and its circulation be suspended. When death takes place the body

loses its animal heat, and the blood coagulates in the veins.

The body may lose temporarily its animal heat without the destruction of life, as is the case frequently by accidental causes, such as freezing and drowning.

In the act of drowning life is not destroyed; it is only suspended, and may be often restored if the necessary means are resorted to in time.

This suspension of life in drowning is caused in the first place by the stopping of respiration, which, in its turn, stops the process of combustion by which heat is produced in the body. As soon as respiration and combustion are arrested, the body commences losing its animal heat rapidly, in consequence of which the blood becomes cold, then coagulates, and the circulation is suspended. Resuscitation is accomplished by restoring heat to the body, which must be done by the application of external heat.

I mention as examples of carbonaceous food, sugar, starch, fat and butter—four very common and very necessary articles of diet, and yet they form very imperfect diet. None of them will support animal life alone. For instance, take a pigeon and feed it on starch grains alone. Its bones will first become soft and then it will die.

There are a great many other varieties of this class of food. Indeed, the great bulk of all vegetable growth is composed mainly of the same elements, viz: carbon, oxygen and hydrogen, which is evident from the fact that in the act of combustion the great bulk of them disappear in invisible gases, leaving nothing behind but a few ashes which contain all the mineral elements of their growth.

The process or phenomenon which converts the grass of the field first into the blood of the animal and then into bone and flesh and muscle is most wonderful. The process, as far as science can explain it, is this: Food, when taken into the stomach, is immediately acted upon by the gastric juice: which, as before observed, contains muriatic acid, and which possesses the power of dissolving all soluble substances taken into the stomach. All that portion of the food that is soluble is dissolved by the gastric juice. It is then taken up by the lacteal vessels, by which it is absorbed and assimilated, and finally converted into blood. The blood thus formed is then by the heat distributed out to all the organs of the body, each receiving from it what is necessary to build it up and nourish it. This force of the heart is very great, being sufficient in some animals to raise the blood six, seven or eight feet high from the orifice of a divided artery, and expel eight or nine pounds every minute, with a velocity of one hundred and fifty feet in that time.

- \* There is a great difference between the two processes of digestion of food and its decomposition or fermentation. When the proper kind and quantity of food is taken into the stomach, it is *digested* and goes to the sustenance of the body; but when unhealthy food is eaten, or when the quantity is so excessive that the gastric juice is not capable of dissolving it, decomposition, which is chemical action, sets in; the system is more or less disorganized, and cholera and other disorders produced.

There are two independent forces in the animal organism, viz: the vital force and the chemical force, and they may be said to be antagonistic. When these two forces are equally balanced in the body, or when they are at equilibrium, perfect health prevails. But when the chemical forces get the ascendancy over the vital forces, disorganization and disease are produced; and unless the vital forces are re-established, or the equilibrium restored, death ensues. Whenever any obstruction or interruption of the vital forces occur, the chemical forces immediately set to work, and a struggle between them commences; the vital forces striving to re-establish themselves, whilst the chemical forces oppose it. To illustrate, let a person receive a very severe blow upon some fleshy part of the body, whereby the parts become much injured or bruised. The vital forces are at once interrupted or suspended in the injured parts, and a struggle for ascendancy between the two forces at once commences, and goes on until either one or the other is successful. If the vital forces succeed, health is restored to the parts; but if they fail chemical action is established, decomposition ensues, and the injured parts are removed by suppuration. Medical authorities say that whenever more than one-third of the surface of the body is thus injured, either by burning or bruising, the vital forces are not capable of re-establishing themselves, and death ensues in consequence.

I come now to consider the other class of food, viz: the albuminous food or the albuminoids. This class of food is exceedingly important and valuable, for it is from this class that the blood is formed, and all the organs of the body built up and nourished. It contains the elements of carbon, oxygen and hydrogen, and in addition nitrogen and the mineral elements. The albuminoids are divided into three varieties, viz: albumen, fibrin and casein. There are two kinds of albumen—animal albumen and vegetable albumen. The white of a hen's egg, on being dried, yields 12 per cent. of albumen. Albumen occurs in the soluble form in the blood, and in all the liquids of the healthy animal except the urine. I mention as some of the articles in which albumen predominates, viz: eggs, oysters, mussels, the brains, liver and sweetbread. Eggs are very rich in albumen. The yolk contains also gelatin, oil, water and sulphur. Eggs constitute an excellent diet, being easily digested and very nutritious. They pass quickly out of the stomach and have a gentle laxative effect. If our housewives were to consume more of eggs in the family, instead of sending them to market to be sacrificed at half price, an important step would be taken in the direction of economy, and the health and comfort of the family much promoted.

"In the juice of plants, albumen is found in quantities more or less, and hence is called vegetable albumen. It is also found in the potato, cabbage, oats, wheat, barley and rye."

"Fibrin—there are also two varieties of fibrin, viz: flesh fibrin and vegetable fibrin. The blood of the higher animals, when cold, coagulates and divides into two parts—the clot and the serum. The latter contains albumen, and the former consists chiefly of fibrin. On squeezing

and washing the clot with water, the coloring matter of the blood is washed out and a white stringy mass remains. This is called blood fibrin.

"If a piece of lean beef or other meat be rapidly squeezed and washed in water, the coloring matters are gradually removed and a white residue obtained, which resembles blood fibrin. This is called flesh fibrin. It is, in fact, the actual fiber of the animal muscle, and hence its name, flesh fibrin." "When wheaten flour is mixed with a little water to a tough dough, and then washed and kneaded for some time in a vessel of water, the starch and albumen are removed, and a yellowish, tenacious mass remains, which is called gluten. When wheat is slowly chewed, the saliva comes off the starch and other matters, and the gluten mixed with bran remains. This is also gluten. Gluten is a mixture of several albuminoids, and contains besides some starch and fat." Wheat contains a great deal of gluten, and it is this which imparts to wheaten bread its great value as a bread diet. Wheat bread is more nutritious than corn bread, being richer both in the nitrogenous compounds and the phosphates. Corn bread, however, is an excellent diet. It contains more fat and sugar than wheaten bread; but less of the albuminoids. Casein: there are also two kinds of casein—animal casein and vegetable casein. "Animal casein is the peculiar ingredient of new cheese, and it is also an ingredient of milk. Unlike albumen, it is not coagulated by heat, but by acids and by rennet, which is the inner coating of the calf's stomach. When casein is separated from milk by rennet, as in cheese-making, it carries with it a considerable portion of the phosphates and other ingredients of the milk." These contain the best and most nutritious constituents of the milk, and must therefore constitute a most excellent article of food. Vegetable casein is found in large quantities, say from 17 to 19 per cent. in the pea and bean, and in the seed of all other leguminous plants, and resembles milk casein in all respects."

"The Chinese prepare a vegetable cheese by boiling peas to a pap, straining the liquor, adding gypsum until coagulation takes place, and treating the curd thus obtained in the same manner as practiced in making milk cheese. Vegetable casein is also found in oats, the potato and many other plants."

Professor Johnson, of Yale, speaking of this class of food, says: "We step aside for a moment from our proper place to direct attention to the beautiful adaptation of this group of organic substances to the nutrition of animals. Those bodies which we have just mentioned as the animal albuminoids, together with others of similar composition, constitute a large share of the healthy animal organism, and especially characterize its actual working machinery, being essential ingredients of the muscles and cartilages, as well as of the nerves and brain. They exist largely in the nutritive fluids of the blood and milk. So far as we know the animal body has not the power to produce a particle of albumen or fibrin or casein. It can only transform these bodies as presented to it from external sources. They are hence indispensable ingredients of

food, and have been aptly designated by Leibig as the 'plastic elements of nutrition.' It is in all cases the plant which constructs these substances and places them at the disposal of the animal."

"The albuminoids are mostly capable of existing in the liquid state, and thus admit of distribution through the entire animal body as blood, &c. They likewise readily assume the solid state, thus becoming more permanent parts of the living organism, as well as capable of indefinite preservation for food in the seed and other edible parts of plants."

These albuminous bodies in their composition consist of carbon, hydrogen, oxygen, nitrogen, sulphur, phosphorus. They contain on an average from 15 to 18 per cent. of nitrogen, and it is this ingredient mainly that gives such value and importance to them as food.

"In the animal organism, the albuminoids of the food of whatever name are dissolved in the gastric juice of the stomach, and in the blood where they form blood albumen and blood fibrin. As the blood nourishes the muscles, they are modified into flesh fibrin, or entering into the lacteal vessels are converted into casein, while in the appropriate part of the circulation they are formed into the albumen of the egg."

Cumberland Co., Va.

WM. HOLMAN.

[This subject will be further considered by Mr. Holman in our next.—Eds. A. F.]

### Drainage.

A Lecture read before the officers and members of Fairlee Grange, No. 8, Kent Co., Md., by Howard Meeks, W. L.

Some of our Kent county farms need drainage. Some have too much. There are two kinds of drains: open and covered. The latter may be sub-divided into two classes: one of which is necessary and exceedingly profitable; the other wholly unnecessary and extremely injurious. Of open drains little need to be said. Many are not drains, but dams. The earth taken from the ditch is banked up on the sides, forming an effective barricade to prevent the entrance of the water, and forcing it to stagnate upon the land. Left thus from year to year, these levees become the seed-beds of noxious weeds, bushes and briars. Such drains, if they may be so called, are not only unsightly, but wasteful and unprofitable in a high degree. These embankments could, with a little energy, be made to contribute to the compost heap and materially swell the manurial resources of the farm, and their removal would relieve the land of its surplus water and make it more productive. If this be not feasible, the plow and scoop should be freely used.

Of covered drains, one kind is not only necessary but a source of great income. Most farmers know something of John Johnson and his "crockeryware." How his neighbors laughed and joked and jeered when he first began his system of tile drainage! But now they know that for every inch of his buried "crockery" there has sprung up thousands of dollars; and many have learned to "go and do likewise."

**Mashamoquet**

Is a farm in the town of Putnam, Connecticut. It consists of one hundred and sixty acres, and came into the possession of Charles W. Goodhue about ten years ago, though it had been in his family for many generations. At the time Mr. Goodhue took charge of it it was worth five dollars per acre, or \$800. The crop of hay on it was 55 tons. To-day that farm "pays the interest on \$30,000 with more regularity and certainty than any city investment."

The hay crop is now 125 tons, with other crops of equal value. In New England a piece of wet low-land is called a *swale*. Such spots will produce rough coarse grasses and rushes, and unless, as is sometimes the case, they become natural cranberry bogs, are about as unprofitable as ridges of slate. In Kent and many other counties of Maryland there are many such swales. One such plat of land of 11 acres on Mr. Goodhue's farm was underdrained at a cost of \$55 per acre. The yield of this lot last year (1878) was 39 tons of hay—something more than the whole farm formerly produced. This hay at \$10 per ton will give an interest of \$35 on an investment of \$55, or sixty-three and two-thirds (63.66) per cent. per annum. The rowen or aftermath is not cut, and therefore not included in the crop, but left to improve the soil.

Since this experiment, Mr. Goodhue has drained twenty acres more, at an expense of \$35 per acre, or \$700. Five acres of this produced last year (1878) 13.5 tons of hay. The net cash receipts of this farm are now \$1,800 per annum. Such drainage is profitable. But there is a kind of drainage that is quite otherwise. These, like the better sort, are not seen, or at least are not so apparent as to attract attention. They consist, as do the others, of mains and laterals. To lay them costs nothing, but once laid they become fountains of perpetual poverty.

In the early history of Kent county tobacco was the staple crop and continued to be so until the cry went forth in every direction "farming don't pay." Then farmers abandoned tobacco and gave their attention more to cereals. It denoted progress, for the cereals do return something to the exhausted soil. This kind of husbandry prevailed with varying results until the discovery and introduction of Peruvian guano. Its action on first application was marvelous and excited the most sanguine hopes. Further trials, however, dispelled the illusion, and demonstrated that stimulants are not food, and that excessive excitation of land, as of animal life, must result in subsequent and corresponding exhaustion. Yet the process is still going on, and to-day farmers everywhere are toiling on in the delusive hope of reaping some profit while they are enriching the dealers in commercial fertilizers. A member of this grange has made a close calculation and finds that the farmer gets all the straw and chaff and the phosphate merchant all the grain. It is not at all extravagant, I think, to say that the outlay for fertilizers in a single year in this county would pay for a cistern to contain the liquid manure of the barn-yards on every farm in it. Moreover, that this liquid manure, now wasted, applied to grass lands, would be worth more than twice the price of the fertilizers employed.

On nine-tenths of our farms this finds its way into the Chesapeake. This is pernicious drain No. 1. Added to this is the almost universal practice of leaving solid manure exposed to the weather to leach and evaporate until its strength is exhausted. The lack of sheds or covered pits to protect our manure is insidious and ruinous drain No. 2. These we may call mains of this wasteful system of covered drains.

The laterals are innumerable. There is no pit for ashes, and they are thrown out to be scattered by the winds or leached by the rains until they are nearly worthless. The droppings of the poultry-house are suffered to lie about in much the same manner until half their virtue is lost. Plows, harrows and other farm tools are left where last used to bleach and decay, to be replaced by new ones to pass through the same ordeal. Cattle and other stock stand shivering in the wintry blast eking out a life of woe by nibbling at a bunch of straw; while the farm buildings, dwelling included, are tumbling to pieces; while loose clap-boards and swinging shutters are clapping a psalm of praise to the presiding goddess of ruin! The farm has been drained and the owner likewise. How long can such a process continue?

An Irish trader asserted that he sold his wares for less than cost. "How, then, do you live?" asked his customer. "Och! then, man, I niver could, only I do so much uv that business." To the ordinary mind it seems evident that the more of such farming a man does the worse it is for him and others. No man can afford to raise wheat, corn or produce of any kind at a loss, and no man can buy fertilizer at \$40 the ton and sell his crops at present prices without heavy loss. How, then, have farmers kept up since the accession of the guano fever? I answer, by their fruit crops. Precarious and uncertain as the peach crop has proved, it has nevertheless been the principal factor in the grand total of our agricultural wealth since 1840.

Then, fortunately or otherwise, about 1850 the Crimean war stimulated prices, and yet further by our war with Mexico. Then came the discovery of gold in California, then the Franco-Prussian war, succeeded by our own civil conflict,—all tending to the same result: the inflation of prices and by a specious prosperity covering up the inward rottenness of the guano monopoly and the subsequent traffic in chemical compounds.

Now that there is nothing to stimulate prices it begins to show the baneful results that could not otherwise than follow. What can be done? What ought to be done? I answer: discard at once and forever the whole system of exhausting our lands by stimulating them with ammoniacal preparations. This will fill up the main pocket drain. Let us apply this wasted money to build cisterns and sheds to contain, preserve and protect our barn-yard resources in all their strength and purity, and thus close up another of the main drains.

Let us apply the money now paid to dealers in commercial manures and their agents to the erection of comfortable quarters for our live stock and our tools, and in due time we shall be able to drain our lands as C. W. Goodhue has drained Mashamoquet.



### A Few Words About Lime.

Prof. Puryear, who has charge of the agricultural columns of the *Religious Herald*, and who is recognized as a skilful chemist, gives in a recent paper the following succinct suggestions on the uses and misuses of lime:

What are the uses of lime in agriculture?

(1) Lime is always one of the nine substances found in the ash of plants. The grasses and forest trees particularly take it up from the soil in great abundance. When lime is not present in the soil in sufficient abundance to meet this demand, it should be added.

(2) Lime is needed to hasten the decomposition of vegetable matter, and so make it available as plant food. If we wrap up a piece of lime in a cloth, in a short time the cloth is so decomposed that it will fall into shreds from its own weight. Tanners use lime in their vats to rot the hair from the hides. Now, lime behaves exactly in this way in the soil. The vegetable matter in the soil is useless until it decomposes, and lime hastens the process of decomposition.

(3) Lime is frequently necessary to correct acidity in the soil. Soils charged with vegetable acids are never productive. On such soils we put lime, which, combining with these acids, forms neutral salts of lime. A person takes a little lime water, for exactly the same reason, when he suffers from acidity of the stomach. When lands have been freshly drained, they are always acid. The excess of water, with which the land was saturated, had excluded the atmosphere, and so had prevented the complete decomposition of vegetable matter. This vegetable matter, if the air had not been excluded, would have been converted by atmospheric oxygen into carbonic acid, ammonia, &c.; but, without oxygen, its elements rearrange themselves, and form those injurious compounds, ulmic, humic and geic acids. When the soil is drained, the atmosphere strikes through and destroys these acids, but not entirely in a single season. The process, of necessity, is slow.—The soil to the depth of several feet, it may be, is sour, and it will be some time before the atmosphere can thoroughly permeate this soil and burn out these hurtful acids. Lime, then, comes to help the slow operation of natural causes. When it is spread upon the soil, it is carried downward by the rains, and combines with and neutralizes speedily and effectually these vegetable acids. We cannot possibly err, then, when we put lime on freshly-drained lands. In such lands there are not only free acids, but a large amount of organic matter, which has not been decomposed because of the exclusion of atmospheric oxygen. The application of lime to such soils corrects this acidity, and, by decomposing, renders immediately available this large amount of vegetable matter.

The ash of the grasses contains 22 per cent. of lime. Hence the practice of topdressing the grasses with gypsum, which is the sulphate of lime.

Lime may be injuriously applied. If the soil contain but little vegetable matter, the application of lime, particularly heavy applications,

will cause this vegetable matter to decompose too quickly. When the crop approaches maturity, it finds that its quantum of vegetable matter has already been decomposed and used up. The result will be conspicuously disastrous if the soil was not deficient in lime. The lime has supplied no want, but has only inflicted an injury.

(1) Lime is known as caustic or quick lime. This is the article as we obtain it from the kiln. Heat has expelled carbonic acid from the carbonate of lime, and caustic lime is the result.

(2) Hydrated or slaked lime. When we add to lumps of caustic lime about 25 per cent. of water, the lumps fall down into a perfectly dry powder, giving us slaked lime.

(3) Upon exposure to the atmosphere, this slaked lime loses its properties. It becomes the carbonate of lime, or mild lime,—the very compound chemically from which the lime was originally obtained. This mild lime, or carbonate of lime, has no caustic or disorganizing properties whatsoever. It may be asked, then, why we do not use lime in its natural state, namely, the carbonate of lime, if it gets into that condition when we spread it on the soil? We answer:

(1) Although lime goes back to carbonate of lime, it does not do so all at once, and, in the process of returning to that condition, it decomposes vegetable matter, and so makes it plant food.

(2) The natural limestone rock—the carbonate—is very hard, and its reduction to a powder by mechanical means would be difficult and expensive. Now, when lime slakes in the air it falls down into a dry powder. No mechanical reduction, therefore, is necessary. It requires less expenditure of force to burn the limestone, and let the lime fall to powder of itself, than to reduce the natural rock by mechanical power.

Trees, like grasses, contain lime largely. The indication is to apply old mortar, or lime in any form, to fruit and shade trees, and this should be done in the fall.

### The Pea for the South.

Among the essays read before the South Carolina Agricultural Society at a late meeting, was one by D. P. Duncan, on the Grasses for the South, in which he highly eulogized, among others, the Orchard Grass, Lucerne, and the common Clovers, the value of all of which are familiar to our readers. At the conclusion of the essay Mr. Duncan thus alludes to the Pea as a fattening crop:

"I come now, in conclusion, to what I think is, indeed, the clover of the South, and that is the field pea. I believe, all things considered, it is better for the South than clover, both as a manurial agent and as feed for stock in the summer and fall. In saying this I don't intend, if you will allow the expression, "to go back" on clover, but as you know the field pea can be grown successfully in every section and on almost all soils throughout the South. Peas are easier sown, are sure to germinate, grow faster and afford more protection to the land at the right time than clover. Two crops can be

grown yearly on the same land in every Southern State. It is unsurpassed for fattening hogs, unsurpassed as a green manure, and, to crown all, it will grow on all sorts of soil and won't be long about it anywhere. It has been and is a wonderment to me. Why? Our farmers will not use it more, and I have thought it was because it was so easily used and at so little cost; or it was not patented, or did not require some agent to come round and sell the right; and then, again, it is not something new under the sun; for hear what Mr. Edmund Ruffin said about the pea in an address he made before the South Carolina Institute, in Charleston, in 1853, on the subject of "Southern Agricultural Exhaustion and its Remedy:"

"The native or Southern pea, (as it ought to be called,) of such general and extensive culture in this and other Southern States, is the most valuable for manuring crops, and also offers peculiar and great advantages as a rotation crop. The crop may be so well made in your climate as a secondary growth under corn, that it is never allowed to be a primary crop or to have entire possession of the land. It will grow well broadcast, and either in that way and still better, if tilled, is an admirable and cleansing growth. It is even better than clover as a preparing and manuring crop for wheat. I have made this crop a most important member of my rotation, and its culture as a manuring crop has now become general in my neighborhood, and is rapidly extending to more distant places. If all the advantages offered by this crop were fully appreciated and availed of, the possession of this plant in your climate would be one of the greatest agricultural blessings of this and the more Southern States. For my individual share of this benefit, stunted as it is by our colder climate, I estimate it as adding at least one thousand bushels of wheat annually to my crop."

The experiments made by Dr. Rose and other Charleston gentlemen with the pea and the ash-element have been so complete, and I might say to the uninitiated wonderful, and have, indeed, now so become facts of history that any comments on my part would be presumptuous.

In closing this subject I will allude to one line of experiments I have been following for some years. I have been sowing my oats stubble in peas; get a stand of oats, allow the peas and vines to fall on the ground, and make a second crop of oats without sowing any oats seed. Last summer I sowed seventy-five acres of oats stubble in July in peas, and also twenty-five acres of wheat stubble. Although the oats were badly killed by the severe winter, yet they made a better crop than many who I knew paid 75 cents for seed and sowed in the spring. I now always make two crops of oats on all the oats I sow. The wheat stubble was put in corn, and I can only say up to this date there is a marked difference in the crop from other stubble not treated with the pea. If you will only treat your land in this way you never can wear it out. Just keep one-third always on this "bill of fare." I can now show you a beautiful stand of peas and oats on all my fresh oats stubble.

In conclusion—for I know I must be tiresome, but I do wish to say something on this subject of grasses in another light, and that is as an ornament. The books, you know, speak of ornamental grasses. How cheerless and uninviting is the appearance around many of our country homes. A blue-grass plot or terrace, a border of these grasses; different shaped beds of lawn grass, composed of blue, orchard, Italian rye and perennial rye, cost so little in the end, and yet add so much to "looks," and gives home, no matter how humble, such a cheery look. I have never yet found a place with these things but I have always found wide-awake people who "lived at home." I ask, in the name of the love we bear to this dear old Sunny South—I ask, can't our homes be made attractive enough to keep our young men on the farm, instead of seeking their fortunes in our over-crowded towns and cities?

### Fish Culture in the South.

We have received from T. B. Ferguson, Esq., one of the Fish Commissioners of Maryland, a notification of his intention to continue the distribution of the German carp from Druid Hill Park as long as the supply at his command shall last and the weather permits, and a request for us to call the attention of the readers of the *American Farmer* to the same. Mr. F. also forwards us a copy of the circular of Prof. Stephen F. Baird, of the United States Commission of Fish and Fisheries, dated at Washington city, which gives the proper directions for transportation and management of the carp. By reference to our Paris letter, this subject of fish culture by farmers is attracting attention in Europe as well as in this country.

Professor Baird says, in regard to the work of the Fish Commission, that he is now engaged in distributing German carp as widely as possible throughout the Southern part of the United States. Shipments have already been made to Kentucky and Missouri. The Fish Commission, of which Professor Baird is the head, has now on hand about 15,000 young carp for distribution,—a number quite inadequate to supply the many demands which have been received from all over the South.

In describing the improved or German carp, Professor Baird says that this fish bears about the same relation to the ordinary English carp that a North Carolina "pine woods" pig does to one of the Berkshire breed. In Germany the carp is esteemed as highly as the trout and sells for the same price in the market. The first successful introduction of these fish into the United States took place about three years ago. The experiment of breeding and raising them in the pond where they were then placed has been perfectly successful, the fecundity and rapid growth of the fish having been quite remarkable. Specimens hatched this year have already attained a length of seven inches. The carp lives on vegetable food, and thrives best in



warm water.—facts which make it peculiarly suitable for the South,—and its qualities as a food fish will give it a high value in that section.

Professor Baird is very sanguine that the California salmon will thrive in Southern rivers, where the temperature of the water at the spawning season does not usually rise so high as in the Sacramento River, where the salmon live and flourish.

The labors of the Fish Commission during the last two years have added two valuable food fishes to the list of salt water varieties usually found in the markets of the Atlantic cities. These are the pole flounder and the tile fish. The former has been found in great quantities and over a wide range. It is destined to become an important source of food supply, both on account of its abundance and its fine qualities as an article of food. The tile fish resembles the cod in some particulars. It is said to be abundant and is likely to become extensively used as an article of food. Captain Kirby, its discoverer, prefers it to the codfish.

Professor Baird says that during the past season the "thimble-eyed" mackerel reappeared in great numbers at Provincetown and other points on the Atlantic coast after an absence of forty years. This is also a valuable food fish.

Experiments in hatching codfish have proved very successful. The fish commission hopes not only to restock the waters of the New England coast, but to extend the locality within which this valuable fish ranges much farther south. It is known that long ago the cod flourished in great numbers several hundred miles south of where it is now found.

Preliminary studies have been made with a view to actual experiments in breeding halibut, with which fish it is also hoped to stock the waters off the coast of the United States. Indeed, Professor Baird says that he looks upon all the work of stocking the lakes, ponds and rivers of the country with fresh-water fish as only preliminary to that of stocking the sea with desirable salt-water varieties.

### The Census Returns.

In addition to the notice in our last of the call, by the Superintendent of the Census, for the preparation of their replies by the farmers of the United States as to their crops, we subjoin the following from his circular, which we think should be faithfully attended to by every enlightened farmer who wishes to see the magnitude of our productions of the earth properly placed before the world:

To remove any doubts that may arise concerning the crops to be returned in the census, the following table presents the several crops specifically mentioned in the agricultural schedule, arranged according as they fall into the calendar year 1879, or that of 1880, or are to be returned for the twelve calendar months beginning June 1, 1879, and closing May 31, 1880:

### PRODUCTIONS OF AGRICULTURE DURING THE YEAR ENDED JUNE 1, 1880.

#### I.—Of the crop of the calendar year 1879.

Wheat, acres, bushels.	Small fruits, acres, value
Corn, acres, bushels.	of products, \$.
Rye, acres, bushels.	Hay, acres, tons.
Oats, acres, bushels.	Clover seed, bushels.
Barley, acres, bushels.	Grass seed, bushels.
Buckwheat, acres, bushels.	Hops, acres, pounds.
Pens and beans, bushels.	Hemp, acres, tons.
Rice, acres, pounds.	Flax, acres, pounds.
Tobacco, acres, pounds.	Flaxseed, bushels.
Cotton, acres, bales.	Bees, number of hives,
Potatoes, acres, bushels.	pounds of wax, pounds
Orchards, acres, value of	of honey.
products, \$.	Sugar cane, acres, bbls.
Vineyards, acres, value of	sugar, gals. molasses.
products, \$.	Sorghum, acres, pounds
	sugar, gals. molasses.

#### II.—Of the crop of the calendar year 1880.

Wool*, number of fleeces,	Maple sugar, pounds.
pounds.	Maple molasses, gals.

#### III.—Of the yield of the twelve months, June 1, 1879, to May 31, 1880.

Butter, pounds.	Market gardens, acres,
Cheese, pounds.	value of products, \$.
Milk sold, gals.	Value of forest products, \$.
Value of animals slaughtered, \$.	Value of home manufactures, \$.

\*Except in California and Texas, as noted in the text of the circular.

### Our French Letter.

Messrs. Editors American Farmer:

In Belgium flax straw is given to horses mixed with oats; it contains, according to Dr. De Leeuw of Hasselt, more mineral matters than other straws, chiefly silicates, which united to organic substances make the latter more difficult of digestion. Flax straw is considered to possess laxative qualities, and is slightly richer in fatty and albuminous matters. The same gentleman confirms the experiments of Wolff respecting rice cake from its starch constituents; when given in larger proportions than 10 per cent. of the forage, (hay and straw understood,) it interferes with their digestibility. The vintage is worse still, and nearly as bad as vidium year of 1851. The vine-growing region of France is comprised between 43 and 45 degrees of latitude, representing a belt of 450 miles; only one-third of this zone has been favored with suitable weather during 1879; the yield in these favored parts will be excellent in quality, but poor in quantity; the whole yield will be nearly 50 per cent. less than the average, and the new vines are poor in color and alcohol. Some proprietors will derive no revenue from their vineyards, and the railways will also have less receipts, having less wine to transport.

The vine disease is not retrograding; Spain suffers now as much from the phylloxera as France. Within the last month two remedies are clearly becoming prominent: autumnal flooding for 35 or 45 days, with one foot of water, to be followed or not in spring by a manuring; the second plan is the employment of American stocks, either directly imported or raised in nurseries, or by graftings on the French vine. The insect powders are if anything on the decline. Sulphuret of carbon is expensive and difficult to manipulate, and it must be employed so long as the bug exists; this is a heavy expense for vineyards whose brands are not mark-

edly famous. Indeed many give up the sulphuret and adopt the American stocks. The latter appear to thrive best in soils containing much iron, and an analysis of the roots show that they contain double the percentage of potash and phosphates than the roots of the European vines. In several departments of France very extensive nurseries exist for rearing American vines, which appear flourishing and robust alongside a puny and expiring French plant. Every region has its favorite American stock; in the South, the Jacquez is the rage; elsewhere the delicate Clinton, while others prefer the Herbemont, Cunningham, Taylor and Rulander. For grafting on French vines the processes are various, and often a European plant is grafted on an American root. The Duc Fitz James has replanted nearly 1,000 acres with American stocks; he has a nursery where every variety of the American vine is to be found, and, not content, he intends importing also from other countries when the canals now in course of construction are completed; flooding will be the panacea most resorted to.

The agricultural society of Meaux has formed itself into a league to crush the dealers in fraudulent fertilizers; a farmer has only to send a sample of the manure *delivered* to him to be analysed, when he shall be immediately informed of its commercial value; if adulterated, the president of the society will make a report, and the public prosecutor, who will put the law in force. In the department of the lower Seine, it has been decided to set apart some perches of land in every parish or commune, which will be sub-divided into lots, to test the values of commercial fertilizers, as compared with farm-yard manure, &c; these plots will be allocated to the teachers of the National Schools, and will be inspected by leading local scientists.

M. de Molon draws attention to the happy results which he has obtained by mixing powdered phosphate of lime with sea weed; the carbonic acid generated by the fermentation renders the phosphate soluble—similar to what takes place in the soil. To a layer of sea-weed is added one of powdered phosphate; the mass is allowed to remain under a shed for six or eight weeks till decomposition has been effected; if the latter arrive slowly, a fresh turning over of the mass will complete the decay.

French farmers are less inclined to grow wheat, and devote more attention to the production of mutton and milk. The latter is becoming an industry; farmers co-operate to form factories for the production of cheese and butter, and, not content with this, some schools are to be founded, as in Silesia, where dairy maids will be trained in all the new plans for the industrial working of milk. Another branch of farming is the cultivation of fresh water fish, cray-fish included; many farmers enjoy a comfortable revenue from pisciculture, and some agricultural societies award premiums for pond and river fish, oysters, &c.

*Paris, November 6, 1879.*

THE importation of sheep into Great Britain from the U. S. is again permitted, without requiring them to be slaughtered or quarantined.

## Protection to Game in Maryland.

*Messrs. Editors American Farmer:*

A word to the wise is said to be sufficient. Our farmers are not sufficiently awake to their interest with regard to their destruction of insectivorous birds. Some weeks ago I happened to walk across my potato patch and found the vines had been attacked by a great swarm of the old, long black bugs, that were somewhat common years ago, before "Colorado beetles" were invented. They had already done considerable damage by eating the leaves, and the destruction of the crop seemed inevitable. Two days afterwards I again visited the potato patch and was startled by the sudden flight of a large flock of partridges, and not a single black bug could I find. Now I did not see the partridges eating the bugs, but what else could have become of them.

The birds are our friends. Shall we not protect our friends by *posting* our farms, and warn all parties whomsoever not to trespass with dog or gun on our premises? Putting rabbits in the same category with partridges, as "game," shows the wisdom of our law-makers. I fully believe rabbits are a nuisance. They not only girdle young fruit trees, but will destroy and this summer did destroy a large lot of late cabbage plants for me. They can readily be trapped in winter.

A. C.

*Sandy Spring, Md., 10th mo., 10, 1879.*

[In connection with the suggestion of our correspondent, we append the following paragraph from a New York paper.—*Eds. A. F.:*]

*Game Protection.*—It is a fact that in nearly every well-settled region where there is no game protection, game of all kinds, and particularly game birds, become very scarce, from their slaughter by the professional sportsmen, who, with the help of their dogs, shoot down every game bird to be found, leaving not even enough for breeding. And city sportsmen seem to have the idea that farmers ought to protect their game only to allow them to clean it out every fall, and they raise a great cry against the trappers who snare the game. But their motive is to be seen easily enough. They are the ones who want the game, and as they have the law in their control they of course have the best side of the question at present. Just a question on that point will do. Who leaves the most birds in a flock—the trapper or the professional hunter after a day's chance at them? As an example of what protection will do, I give a few facts on the subject from this neighborhood. Ten or twelve years ago, in the fall, a party of eight or ten "professionals" came to this place for bird-shooting. They brought with them dogs and outfit for hunting and ranged the country for game, and stayed until for several miles about there were not probably twenty quail left.

What was the consequence? For six or eight years afterwards hardly a quail and very few partridges could be found. When they began to increase again, four or five years ago, some of the farmers posted trespass notices on their land forbidding hunting entirely or only with the permit

of the owner. This has been continued, until now in that section in one circuit of half a mile are four or five flocks of quail and one flock of partidges, and I think they are nearly or quite as plentiful wherever they have been thus protected, and from the present prospect are not in danger of being butchered again for some time to come. Any community of farmers can do the same. Let farmers and landowners but give game-protection a fair trial and there is not one in ten who would not see its advantage. Let them post notices forbidding trespassing for shooting game, and by keeping off the hunters, and especially those who hunt with bird-dogs, the result will be in a few years that they will find their woods and fields well stocked with the splendid game birds of the country. With such protection and very little expense other varieties might be introduced, particularly the pinnated grouse or prairie fowl which formerly haunted the Eastern and Middle States, and which would soon become as plentiful as our common quail and partridges now are. Put up notices!—[T. D. Gilbert, Westchester Co., N. Y.]

#### The Gunpowder Agricultural Club

met November 22d, at the residence of B. McL. Hardisty. After reading the minutes of the last meeting held at the same place, the club made its customary tour of inspection,—finding the premises, as usual, in neat condition, and the farm stock, implements, &c., in good order. We, unfortunately, arrived too late to join in this part of the proceedings.

Reassembled in the house, a committee appointed to consider the subject of a law for the inspection of fertilizers sold in Maryland reported that they had made some progress, having procured copies of the statutes in force in other States, that of Georgia being read for the information of the club.

On motion of Sam'l M. Price, a committee was appointed to examine the statistics of the hay scales in Baltimore, to correspond with other farmers' organizations in the State, and to frame a bill for presentation to the legislature, looking to the equalization of charges for weighing farm products, and, if practicable, their general reduction. The law fixes the charge for weighing hay and straw at one cent per hundred pounds, and one and a half cents for all other products. It is claimed that there is ten times the quantity of hay and straw weighed now that there was when these rates were fixed; that husks and corn, largely sold now by weight, were scarcely ever so sold then, the higher rate being fixed for cattle and sheep, which a later law prohibits being weighed at all at the hay scales; and further, that even one cent is too great a charge, in view of the immense amount of business done.

The secretary read a letter from Judge Fullerton to a member of the club and the reply thereto, as follows:

NEW YORK CITY, November 12th, 1879.

MR. DICKINSON GORSUCH:

*Dear Sir*—In the report of the proceedings of the Gunpowder Club, in the November number of the *American Farmer*, I find the following passage in reference to your farm:

"The clover and grass fields which had not been pastured showed a remarkable growth of aftermath, and to some it seemed like a waste of good material; but the owner calculated on an inconsiderable advantage secured to the land by the shading and mulch which the untrodden crop afforded."

I was very much gratified to learn that your practice and experience squared so exactly with my own. For many years past I have omitted to cut my second crop of clover and the grasses, nor have I permitted a hand to touch them, and the result is that my farm has rapidly increased in fertility. I regard the practice of denuding land by over-pasturing as pernicious in the extreme, and the first step towards the restoration of exhausted lands is to keep the surface protected.

The second crop of clover, when permitted to fade and decay on the land, is equal, according to my experience, to a generous dressing of manure. It is by far the easiest and cheapest method of enriching poor land, and I have tried it long and thoroughly. I have preached this doctrine so long and earnestly, but with such poor success, that I am rejoiced to find one who agrees with me.

Though my letter is dated in New York City, and discloses the fact that I am a lawyer, yet I cultivate a large farm in Fairfax county, Virginia, and take a great interest in everything that pertains to agriculture.

When I purchased my farm about seven years ago it was about as poor a specimen of exhausted land as could readily be found. It is now, however, in very excellent condition, owing, amongst other things, to keeping the surface well mulched with a rich and luxuriant aftermath.

Pardon me for the liberty I have taken in addressing you, but I could not resist the desire to say that my experience corresponded with your own, and to express the hope that you will induce others to follow your example.

Yours truly, WM. FULLERTON.

BALTIMORE Co., MD., Nov. 22, 1879.

WM. FULLERTON, Esq.,

No. 120 Broadway, New York City.

*Dear Sir*—I must ask your pardon for not having answered your letter of 12th inst. promptly. I have been hindered partly by pressing occupation and partly by indisposition.

I have long favored the plan of improving land by means of a heavy growth of grass, both as a protection to the soil in the way of mulch, and as adding to its fertility by turning under; but have not been able to practice it in more than a very limited way, from the fact that I have been engaged in the dairy business. This I abandoned last spring, and am now free to enter on the system you have adopted with such com-

plete success, and from which I, myself, anticipate the most favorable results.

Doubtless, to derive the most benefit from the method you have been practicing, it should be adopted in its entirety. There may be many who adopt it in part only, inasmuch as the temptation to turn stock in upon a fine field of grass, running to aftermath, is one which a farmer finds it difficult to resist, especially as the notion is general that an excessive growth of vegetation is not promotive of a good crop the succeeding year. I have, myself, been pasturing the aftermath lightly, to which the report in the *American Farmer* refers, but not previous to heavy frost.

Your experience encourages me in my intention to foster the production of aftermath to be reserved intact for the advantage of the land. Besides, it should induce others to make tests for themselves; for if a high state of fertility is obtainable by giving grass land the full benefit of its aftermath, all must agree with you, that no road to success in his calling, open to the farmer, is cheaper or easier.

I might add in conclusion that for years I have been invariably getting good sets from using ten four-horse loads of barn-yard manure per acre, applied on top for wheat in conjunction with from 100 to 125 lbs. of a commercial fertilizer prepared under the supervision of the Maryland State Grange Agency, drilled in.

I have the honor to be yours, respectfully,

D. GORSUCH.

#### Half Hour for Questions.

A member asked whether grass is injured by pasturing at this season of the year, and the general opinion was that both clover and timothy would be killed by pasturing when frozen, and that stock ought not to be turned upon them till the frost is out.

Jno. D. Matthews inquired whether it would hurt his wheat to turn his cattle upon it that they might glean the blades of corn fodder which had been scattered over it from the adjoining field by the recent storm—the wheat being short. It was thought there would be no injury done, as the cattle could only go on the wheat when the ground is frozen. Nelson R. Miles said he practiced grazing his wheat, and never found any injury from it.

Edwin Scott being asked as to the difference observed between the corn in different portions of his field, said he attributed it to the plowing. He used the Syracuse plow and the Davis, and where the work was done by the latter there was a marked difference for the better in the size of the corn. His opinion is that the Syracuse plow cut the sod and buried it in the bottom of the furrow, and left the stratum of subsoil brought up on top of the ground, where are the most of the feeding roots of the corn.

W. W. Matthews said in his field he could see to the row where the Oliver Chilled Plow was used, so much better was it—his experience being exactly the reverse of E. Scott's.

The English Sparrow here received some attention at the hands of the club, and found few friends,—the main specification in the indictment against him being that he drove off the other birds; and one member testified to having

opened the crops of several which he had shot, and found them to contain grains and seeds and no insects or worms. Several favored his extirpation, but others suggested his character had better be first further examined.

Jno. D. Matthews asked what is the value for feeding purposes of the fodder and husks from an acre which gave 10 brls. of corn? Will it winter one steer? He knows if cut up it will.

Ans.—If not cut up, double the quantity will be required.

Here a recess was had for supper, after which the club resumed its work by considering, as is its annual custom at the November meeting,

#### The Manure Question.

Which involves the general management of farm manures, making, saving and applying; and also whether the members have gained during the year any new or valuable experience worthy of record or narration.

A. C. Scott said he had made no new discoveries, but he found that manure has paid him better on corn than on any other crop, when he can get it fine enough to put on. On wheat he finds very little difference where manure is applied, though the grass succeeding is better. As to manner of application, that plowed under for corn does not show as well as that put on surface.

Ed. Scott still thinks barn-yard manure the best application that can be made, but he believes we get more benefit by applying manure and commercial fertilizers together. He saw last year for the first time on his land some benefit from the use of fertilizers, and then it was when they were used with manure. Where the drill-tubs missed delivering, the difference was very plain. Thinks that, like other farmers, he is too wasteful of manure; but when possible he hauls it out as fast as fresh from the stables, spreading right out from the wagon, whether on grass land, plowed land, or land to be plowed.

Ed. H. Matthews has been lately making more manure, and consequently not only more wheat but also more straw whereby to make again more manure. The best place to put manure is on the sod. His is thrown out of the stable into a pile, allowed to remain in two or three days, when there is no trouble in spreading it evenly.

John Bond makes as much manure as he can, and gets it out of his barn-yard as quickly as possible. Uses it generally on corn, but top-dresses poor places on his wheat field—before seeding. Ground washes less where manure is so applied.

N. R. Miles has not been in habit of applying manure on corn, but keeps it for wheat,—his experience proving he thereby secures most benefit. He gets a good crop of wheat, which is followed by a good crop of grass; he mows one or two years, and then gets a good sod for turning down for corn. Whereas, when applied for corn, he makes a fine crop of corn and sometimes a fair crop of oats or wheat; but, as a rule, the strength is exhausted by the corn. An experiment made by him showed that manure is more effective on grain broadcasted than on that drilled.

Samuel M. Price holds it pays best to put manure on corn ground, and, by preference, some months before it is plowed. On his corn-



field last season, however, one-third of the manure was put on the sod several months before the corn was planted, and two-thirds of it on stalk ground, (where corn was repeated to rid the land of plantain,) being put fresh and plowed under. This last gave the best crop. We are all deficient in making and saving manure. Many things not costing much we might gather up and use as absorbents.

q. Would you put out both cow and horse manure on sod? a. Yes. q. Why in the field referred to did you plow the manure under? a. It was *too long* to leave on surface. q. Did the plow turn it under? a. Not entirely. It was mixed with soil, but did not work up. q. In what way can the manure-pile be increased? a. By adding weeds, leaves, and such trash and refuse as is always to be found around the place and not too far to haul. q. Would you haul leaves half a mile? a. When there is a deficiency of absorbents, yes; not otherwise.

John Crowther never applied manure to corn. Uses it on pasture-land or wheat. This year will use it on top of wheat, to which he has already applied 200 lbs. fertilizer per acre. Is not now feeding any rough feed in barn-yard, desiring to keep manure in its present fine condition for such application.

D. Gorsuch.—The subject of absorbents for liquid manure, discussed at last meeting, he did not hear in full. But straw alone is not sufficient. Best matter for this purpose is cut fodder. Has lately employed chaff successfully.

His practice has been to apply manure for wheat; gave him good results on grass; benefit to wheat not decided; by using a moderate amount of commercial fertilizer never fails of a clover set; but will be obliged to change his system now on account of his abandonment of the dairy business cutting his supply of manure short. However, thinks an extrication from the apparent difficulty will not be hard to find, for he has noticed that where he has occasionally used coarse, long manure for corn, in repeating on corn ground of previous year, the beneficial results on the corn and subsequent wheat and grass crops could be easily traced; at first he did not know what to do with the long manure, but the Thomas smoothing harrow run over the ground put the coarse stuff out of the way, and by the second working it was out of sight. Tried this plan again last year with complete success; latter was plowed in 5 inches. Gave him a better crop than last year's on same field which was grown on a sod. Thinks he shall try the plan of applying on corn ground after plowing and before planting.

Last fall he hurried out some long coarse stuff he had in his barn yard not deserving the name of manure, and put on a grass sod. The material was so coarse and straw that he took his hay carriage to haul out with. The good effect of this mulch has been very plain and clearly visible at a distance. q. Will cattle feed there, and is not superior growth attributable to stock avoiding grass growing through newly-applied manure? a. Sees no difference in regard to that. S. M. P.—I have had precisely similar experience with sheep, and confirm what Dickinson Gorsuch says. My sheep fed as much on

the covered spots as elsewhere in the field. B. McL. Hardisty thought grass would be more tender there; manure of the kind spoken of would be but little better than straw from the barn, and as such by no means objectionable to cattle. Foreman (W. W. Matthews)—could not understand why cattle would refuse to graze on recently manured ground; his cat horse stable manure half up when thrown into barn-yard. Discussion general relative to real or supposed antipathy of stock for grass produced directly by their own manure; causes of the superiority of horse to cow manure, and whether high feeding of horned stock and low of horses would bring about approximation of value in the manure produced; ease of spreading fresh horse and trouble of fresh cow manure.

D. Gorsuch, continuing, referred to his experience, not mentioned now for first time, in the use of horse manure fresh from stable direct to mowing lands. He had never applied anything for the improvement of land comparable to it in efficacy.

Heretofore he has not had a sufficiency of absorbents; has made a free use of forest leaves to make out. Now, however, he has straw in abundance; nevertheless, he shall use forest leaves which the late winds have piled up so conveniently about his premises; thinks he can work them in in his hog pen. The forest leaf is a capital absorber; was created for the purpose; becomes perfectly saturated with liquid manure. q. Will they rot up in seasonable time for use; won't they rather, after putting out, dry out and blow away? a. Not his experience. His manure has lain piled in barn-yard all summer—assimilation and decomposition are thus rendered perfect. q. Does it pay to haul dirt for purposes of absorption? a. Pays him; needs earth in giving proper state to his barn-yard and in maintaining it. Catches a wash near his barn and uses this freely; more compact matter is objectionable if not useless and even injurious. Clayey soil should by all means be avoided; in manure pile it hardens like putty. A light dressing of friable alluvial soil put on the manure in the barn-yard every week would do good.

Ed. Scott thought it better to apply direct to the soil and let the assimilation take place there. Applying in barn-yard made too much hauling in and hauling out.

Jno. D. Matthews.—In winter his horse-stable manure is mixed with that from cow-stables. This makes the latter more compact. All his manure is kept under cover, and not exposed to weather. He puts out on fields they are pasturing, as early—a year if possible—before breaking up. The results from his meadows, however, are not satisfactory, though other crops with him have improved very much. Thinks he pastures, perhaps, a little too late.

B. McL. Hardisty.—Several years ago he was in the habit of composting to increase the manure pile. Occasionally he would go for loads of leaves; but he gave this up. At hauling out he believes the latter had shrunk almost 90 per cent. He does not haul out directly from the stable; allows three or four weeks for assimilation, and then puts out; that is in fall and win

ter months; what accumulates in summer he reserves for his wheat. If he had a sod for corn he would apply to that; but would not plow deeper than four or five inches. His theory is to keep manure near the surface; thereby the benefit to crops is immediate. Has had corn to suffer from surface manuring; but the case was exceptional; nevertheless the crop was fair.

In reply to a question, Mr. H. described a pit he has for refuse accumulations.

It is located on a hill-side a short distance from his dwelling. A drain-pipe leads to it from his kitchen door, and into this pipe go all the slops from the house. The pipe coats occasionally with grease; but this heated concentrated lye clears out perfectly. Material in the pit secures complete absorption. Never notices any leakage. He cannot use the compost on land in a pure state; would destroy everything they went on: he mixes with barn-yard manure.

Here arose a general talk on the advisability of adulterating such concentrated matter with barn-yard manure, and also whether hen manure is not well nigh thrown away when so disposed of.

Mr. H. was asked his preference in using barn-yard manure between wheat and corn. He replied that he has tried to make a choice, but has not been able; he applies about half and half to each crop: winter-made to corn, summer-made to wheat. D. G. remarked—corn is a gross feeder, and requires barn-yard manure; wheat, however, does well with superphosphate alone.

Foreman (W. W. Matthews.)—His favorite plan with horse-manure is to apply it direct from the stable on land intended for corn. Barn-yard manure, consisting chiefly of corn-stalks and straw, he composts with earth which he takes out of a wash caught in his barn-yard. In composting he uses plaster freely, and once a week in winter. The compost goes out for wheat after plowing.

This fall he put out some long stuff on wheat; it is showing plainly at a distance. He has been putting out some manure since he seeded to stop wash; thinks he will get some benefit from that on the growing crop besides.

B. McL. H. asked S. M. P. what effect long manure would have applied on wheat in the fall and winter? a. No experience. N. R. M. and the foreman, however, thought well of the idea. Jno. Crowther had tried it with entire success on part of a field; the only grain and grass he had on that field was on the portion thus treated. Time of application: Early part of January; it was of ordinary quality, spread from cart. Foreman—A recent article in *Country Gentleman*, treating on this subject, says: Manure may be applied in this way to grain at any time, when ground is frozen, without injury to the growing plant.

### Sheep versus Cows.

At the November meeting of the Woodlawn Agricultural Society, C. Lukens proposed a question for discussion,—is it profitable to keep sheep on a dairy farm? Statements were made by those who had carefully counted the profits obtained from sheep and from cows.

John Ballenger said he had 35 Cotswold sheep which averaged about one and a half lambs from each ewe. Some of the lambs he sold at \$4.25 and others at \$4.50,—so that the lambs and the wool averaged \$8.00 per ewe.

He kept his sheep in such a way as to be satisfied that an acre of land for each sheep would furnish sufficient feed for a year. The droppings of the sheep were worth all the labor required in preparing supplies and the attendance necessary.

E. E. Mason said that he had kept a careful record of the produce of his herd of cows for one year, and found the average yield to be 55 dollars per cow, when the price of butter was 30 cents per pound. He thought it required the produce of eight acres to keep a cow one year. The labor in making and marketing butter and the care of cows was much more than that required in taking care of sheep. The general rule that six sheep will consume no more feed than one cow would clearly indicate that sheep were more profitable than cows.

William Hunter said that another charge against keeping milch cows was, that they impoverished pasture land much more than cattle kept for beef would. That in five years the difference could be plainly seen in the pasture field in favor of the beef-feeders. This was accounted for from the fact that cows producing milk yield the phosphates obtained from the grass in the milk taken from them, and returned but little in their droppings in comparison with cattle grazing for beef.

It may be observed here that these estimates for keeping sheep and cows are based upon the average condition of farms—not upon what may be done by soiling, or upon highly productive land. Some thought these estimates too low; others that they were about a fair average.

N. W. P.

### Deer Creek Farmers' Club.

#### Feeding vs. Pasturing Cattle.

The Deer Creek Farmers' Club, at their meeting at Mr. Johns H. Janney's, Indian Spring Farm, Deer Creek, discussed the relative advantages of feeding and pasturing cattle, and we are indebted to the *Egis* for the following report:

Mr. Janney said that it was questionable with him whether farmers cannot make more money by full feeding cattle (that is, by fattening them in the stable during the winter and selling early in the spring) than by half feeding or wintering them on rough provender, and fattening on grass in the spring. One winter he had fed one barrel of corn to each steer, the next winter two barrels, and the next 2½ barrels. He made from \$17 to \$23 a head on them. That much ought to be made from pasture alone.

Thomas Lochary said that when you consider the amount of ground it requires to fatten a steer on grass and the fencing you must keep up, he did not think it pays to fatten on grass. He believed in stall feeding. It takes less land and less fencing to fatten a steer in the stable. Milk cows and horses should be kept in the stable and green food be carried to them. Taking the



country all around fattening cattle on grass has not been profitable for several years past. Crops might have been raised that would have paid better.

James Lee said he was in favor of "half-feeding," as it is called. Those who fed from 2 to 2½ barrels of corn to each steer, last winter, made from \$20 to \$25 per head, and those who wintered their cattle on rough feed alone made from \$10 to \$15 per head. By wintering without grain and fattening on grass alone you cannot get cattle fat early enough to compete with cattle from Virginia. The extra feed during the winter costs from \$5 to \$8, and you get more than that by letting your cattle go early. Not only that, but you make manure worth one-third more than that usually made in a barn-yard. The manure from four steers will cover one acre and is equal in value to half a ton of bone. Unless you can buy very low in the fall it won't pay to stall feed.

Wm. F. Hays said he believed full feeding was best.

Wm. Munnikhuyzen said that if you have stock worth keeping at all, they are worth feeding grain. It makes them shed off early in the spring, and the same amount of grass will make them put on more flesh than if they had not been fed grain. Besides, you get them off earlier in the spring and leave something on the fields after they are gone. The manure pays for the grain they eat.

E. M. Allen said he believed it is better to feed more and get the cattle off early. For the reason that you are likely to get more per pound, and you can keep more cattle on the same space, because the ground yields more grass early in the season than it does later.

John Moores said that half-feeding will pay, but full feeding will pay better. It is a great mistake to buy poor cattle to feed. It pays better to buy cattle well grown, with plenty of bone and muscle, and in good condition, weighing about 1,100 lbs. The Pennsylvania farmers buy what we would consider fat cattle, stable and feed them and make money. It is a poor practice to make bone and muscle on corn at 50 cents a bushel, when the Western farmer can make it on corn at 10 to 12 cents a bushel. As for profit, there is more money in grazing cattle than in feeding them. Any man can go to Baltimore about the 25th of April, buy his cattle, put them on grass, and in sixteen years his profits would buy any farm on Deer Creek, without the buildings. Mr. Moores did not think there was a great deal of profit in half feeding. Clover hay he regarded as good as half-ground corn to fatten cattle on. After cattle are stabled it is three or four weeks before they do any good.

In reply to a question by the President as to which of the three ways he preferred, Mr. Moores said it would depend upon the amount of rough provender and hay he had. If he had a good lot of fodder and clover hay he would feed in the field and bring them up the first of February. Feed fodder and clover hay each once a day. It is wrong to try to make bone and muscle on corn and hay in the stable. We ought to make fat. Cattle should have plenty of grass.

They ought to be kept improving either in the barn-yard or field. If he took a fancy he would get fat cattle of good quality, feed them through the winter and in the spring he would have cattle fit to send to Europe.

George R. Glasgow said it was always a question with him whether or not it pays to feed full. Prefers to feed on rough provender during the winter and fatten on grass in the spring. The last two or three years he had been feeding grain, but had made more money by fattening on grass alone, and had found that they fatten as early as when fed a little grain.

Silas B. Silver said that last spring he bought four head of cattle, kept them eight months and made \$70 on them on grass alone. He would feed grain through the winter and feed pretty well. It is better to feed cattle well fleshed, weighing about 1,100 lbs. They should be fed heavily during the winter. The manure is very valuable. More money can be made by grazing cattle, if you can get them in the spring. It does not pay to feed grain and hay to sheep during the winter, but it does pay to fatten them on grass.

Edward H. Hall said he had fed a few cattle last winter. Commenced giving them grain the middle of February, a barrel of corn apiece. Sold them at harvest and made \$16 advance. If he feeds any more will feed during the winter and not graze at all.

James H. Ball said he had fed cattle heavily during the winter and did well. It is essential, however, to have something to eat the grass. It is the general opinion that the best mode to improve land is to have the grass eaten and not plow it. The true plan is to feed lightly during the winter. The cattle will go out strong in the spring and then let them do the best they can on grass. The more grain you give them the less fodder they will eat.

A. M. Fulford was opposed to fencing, on account of the expense of keeping it up, and without plenty of good fences he would be opposed to pasturing and would feed in the stables. He preferably would buy in the fall, cattle in fine condition, feed well through the winter on rough fodder and grain. Animals in fine growing condition will pay better for the amount of high feeding you put in it than any other kind. He once took up a pretty well matured hog in poor condition of flesh, fed one month and found the gain 2½ lbs. per day. The second month the gain was 3½ lbs., and the animal had only eaten 16 lbs. more food, showing it took a good deal to start it. It is the same way with a steer. After you have him in a growing condition it pays better to feed high. It takes a certain amount of food to run the animal economy and all above that goes to growth. If you spread that over a year instead of six months, of course the profit is less.

Thomas A. Hays believes in feeding well, but thought it wasteful to feed young growing cattle too high. He did not think there is the most money from high feeding. Cattle should be fed while grazing. They do not like meal alone, but it is better to mix bran with it. In the field they will not eat fine ground as well as coarse meal. Meal goes to fat and oats and bran to muscle and

bone. Mr. Hays said he intended to test moderate feeding, wintering on rough food, and heavy feeding.

James Lee said that if you take a calf six months old and a yearling, and give the calf meal and the yearling none, the next year the calf will be as large as the yearling. As a steer gets older it will fatten more easily on grass than a younger animal will.

George E. Silver said that if called upon to give a direct answer as to which would pay best, he would say grazing, but he did not think we could graze altogether, without feeding. He would not buy in the spring and graze and sell. Our lands would run out by that method. One cent advance on feeding is equal to no advance in price on grazing. We do not give cattle enough credit for the manure. That from stall-fed cattle is worth one-half or as much more than any other. There is no profit in grain. The most of the farmers in this section who have made money have done so by grazing cattle. Feeding cattle has extended the business, because we must raise crops and have rough provender to feed cattle. Mr. Silver said he did not think the Lancaster county (Pa.) farmers make money on feeding cattle. They make it on tobacco, and are obliged to have the cattle to make manure for their tobacco. If he was feeding he would get heavy cattle, from 1,100 to 1,200 lbs.

Mr. Moores remarked that he had found when grass gets short, about the first of August, corn should be cut up for cattle. They eat roots and all, and it is the most economical way to feed it. He always plants a strip of corn alongside his pasture field, to feed the cattle on, throwing the corn over the fence.

R. Harris Archer (the President) said that if a farmer buys cattle in the fall he should buy good cattle, say weighing 1,100 to 1,200 lbs., feed them all the corn and as much fodder as the will eat, but no timothy hay. Have them fat in April, and then be governed by the market, as to the time of selling. He considered 25 lbs. of corn would go as far as 40 lbs. of hay. Therefore, with corn at 51 cents a bushel and hay at \$20 a ton, the corn is cheaper than hay. Mr. Archer said he had once wintered 40 head of cattle upon the corn and fodder from ten acres.

Judge Watters said the question should be considered in connection with the system of mixed farming practiced here. If you raise corn, oats, &c., you have rough feed to be disposed of, and must keep enough cattle to eat it. These you must fatten in the spring. His theory is to feed all the corn on the place. If you full feed, the cattle will not eat the fodder up. On the other hand, if you half feed, and have cattle enough to eat all your fodder, you will probably have more cattle in the spring than you can pasture. A man should therefore manage to have cattle enough to eat the rough feed and not too many on hand in the spring. His theory is that where a man in the fall has corn and a lot of rough feed to convert into manure, the best way is to buy in the fall a lot of good half-fat cattle, stall feed them through the winter and sell in the spring. Of course you will feed to them more corn than rough feed. In addition have a lot of cattle, as many as can be pastured

the next summer, and winter them on rough feed alone. If he were making simply a grazing farm, he was not sure that he could not make more money by buying cattle in the spring, fatten on grass and sell in the fall.

Messrs. Geo. E. Silver, Glasgow and Lochary, the committee of inspection, reported, saying that it was a pleasure to serve on a committee where there was so much upon which to make a favorable report. They commended the location and situation of the buildings, which afford the greatest convenience, being near the centre of the large farm of 550 acres. The stock of all kinds was in excellent condition, and included six fine Barbarian colts, the thorough-bred Short-Horn cow, Highbanks Wiley, from L. H. Long's herd, Kentucky, a number of grade Short-Horns, a good mule and horse team, &c. Also a flock of fifty very superior thorough-bred Southdown sheep, which looked well, were evenly sheared, and included some which won prizes at the last Harford fair. Mr. Janney's 60 stock cattle were in good condition to go into winter quarters, his barn was well supplied with provender and hay, the granary with corn, and the machinery well housed. His wheat looked strong. Everything about the farm, in fact, denoted care and intelligence in its management.

Mr. Fulford called attention to the proposed formation of a National Agricultural Society in New York, and stated that one of the objects proposed was the dissemination of a knowledge of Veterinary Medicine. He said it was suggested, if the society is organized, to endeavor to establish, at the Maryland Agricultural College, a Professorship of Veterinary Surgery. The co-operation of the Deer Creek Farmers' Club was promised in the objects proposed, and Mr. A. M. Fulford was appointed to represent the club at the meeting in New York.

#### The St. Michaels (Md.) Agricultural Society

Held its November meeting at the residence of Dr. James Seth, with its usual attendance of members and guests. The subject under discussion was the Drainage of Land, and the *Comet* says:

Several members gave their views succinctly and comprehensively regarding this important matter in the science and art of agriculture. The importance of surface-draining in the flat and level lands of this section of country was insisted upon, and the only conflict of opinion, and that a very slight one, was as regards the kind of drains or ditches (involving the shape and size) best suited to answer all the purposes for complete drainage and at the same time to be the freest from the objections of causing washes and waste land.

Mr. Jno. C. Adams advocated wide and shallow water furrows that can be cultivated over, and which can be made and kept in condition by the ditch-scoop, rather than the deeply-dug ditches, which he claims are rarely necessary in this part of the country. His ideas of drainage, derived from intelligent observation and quite an extensive practice, were very intelligi-

bly stated and met the comprehension of those even who were not agriculturists, and his replies to the numerous questions that were put to him by different members of the society showed that he was master of the subject. Mr. Jos. H. Harrison mentioned the advice that had been given to him by Dr. Barnett when he began farming: "You need, first, good fences, and in the second place you must have thorough drainage." Mr. Harrison said that without sufficient attention to drainage, manures, labor, skill, seeds, and everything else put in a farm were simply thrown away.

Mr. Chas. W. Haddaway spoke particularly of under-drains in localities where surface drains would not accomplish the object sought, and gave some interesting instances that had fallen under his observation of the results that had followed under-drains of so simple a construction as pine poles and coarse straw placed at the proper depth underground.

After dinner all walked over the fields and around the shores of Emerson's Point, inspecting and approving Dr. Seth's farming and the condition of his farm and its appointments. Dr. Seth's herd of Alderney cattle were particularly admired. He has a thoroughbred bull entitled to a register in the herd-book, and a number of pure and grade Alderney cows, all as tame as kittens and in good condition.

## Live Stock.

### The Fat-Stock Show.

The second annual exhibition of Fat Stock, held last month at Chicago, under the direction of the Illinois Board of Agriculture, is reported a signal success. The *Prairie Farmer*, from whose report we glean the following details, says:

The entire north half of the ample exposition building, including the northern annex, was completely filled, the annex being entirely devoted to sheep and swine, while the main building was occupied with fat cattle of different grades, and in addition included specimens of some of the more prominent breeds of horses; and it may be observed in passing that they were in condition such as would have delighted those who favor the eating of horse flesh, as is well known is done to a considerable extent in France and some other European countries. The dairy department occupied the art hall, where was spread out a most creditable display of butter and cheese, and dairy implements and utensils. Poultry was fairly displayed by representatives of the various breeds. To accommodate this large display, there were 200 stalls for single animals in the cattle department, besides the necessary pens for car-lots of cattle and the various exhibitions of sheep and swine. The poultry was shown in the special cages of the Society.

There were 299 entries of cattle, including of thoroughbreds, 25 Short-Horns, 11 Herefords, 5 Devons, and 1 cow of unnamed breed, and 91 of

grades or crosses; besides 82 in sweepstake rings, 62 for grand sweepstakes for best steer or cow in the show, 9 car-loads of cattle, 6 dressed bullocks and 7 for heaviest fat steers. Of sheep there were 281 entries, and of swine 159.

Among the awards were the following:

In the class of thoroughbred short-Horn steers, 4 years old and over, both 1st and 2d prizes went to Wing & Thompson, Bement, Ills. Their steer, Wm. Allen, 1,578 days old, weighed 2,240 lbs., making an average gain per day since birth of 1.42 lbs.; and Patron, 1,593 days old, weighed 2,166 lbs., a gain per day of 1.36 lbs. For thoroughbred steers, between 2 and 3 years, J. N. Brown's Sons, Berlin, Ills., took first on John Clay, Jr., 845 days old, weighing 1,636 lbs., and showing an average gain per day since birth of 1.93 lbs., and second on Romeo, 814 days old, weighing 1,449 lbs., showing a gain per day of 1.78 lbs. On steers between 3 and 4 years the first was given J. H. Graves, Chilesburg, Ky., for Nichols, 1,335 days old, weighing 2,060, showing a gain per day since birth of 1.54 lbs., and second to Jno. Sherman, Chicago, Ills., for Eddie Morris, 1,311 days old, weighing 2,019 lbs., showing gain per day of 1.53 lbs.

Most of the premiums on Herefords were taken by T. L. Miller, and all on Devons to L. F. Ross, of Ills., but we find no weights given.

Amongst the grades or crosses, the first prize for steer over 4 years was given a Hereford, but all the others to Short-horns, except the second between 3 and 4, which went to a Devon.

In the sweepstakes rings all the prizes were carried off by Short-horns, and the grand sweepstakes, \$100, for best steer or cow in show, were won by another, shown by J. H. Graves, Chilesburg, Ky. For the car-loads, J. D. Gillet, of Elkhart, Ills., repeated his success of last year, carrying off the honors for every age, receiving \$200 each for loads of steers of 1, 2, 3 and over 4 years. The first premium, \$75, for heaviest fat steer was awarded Jno. B. Sherman, Chicago; second, \$50, to Geo. Gray, Ind.; third, \$25, to J. H. Graves, Ky. The weights of these classes are not given.

The *Prairie Farmer* says:

Among the heavy cattle in the Exposition were the following, and credited to weigh, as taken from the pasture and feeding yards, as follows: The steer Gov. Morton, 3,190 lbs.; Burnside, 2,870; Hoosier Boy, 2,640; Nels. Morris, 2,840 pounds. The following are the actual weights as given by the committee, on animals 1 year to 4 years old:

Messrs. Graves & Co., one steer 4 years old, 2,445; one steer 3 years old, 2,060.

A. F. Moore, one steer 2 years old, 1,786.

J. D. Gillet, one steer 3 years old, 2,139.

Wing & Thompson, one steer 4 years old, 2,240; one steer 4 years old, 2,166; one cow, 1,525; one cow, 1,610.

John B. Sherman, one steer 3 years old, 2,019.

J. N. Brown's Sons, one steer 2 years old, 1,449; one steer 2 years old, 1,449; one steer 2 years old, 1,636; one steer 2 years old, 1,316; one steer 2 years old, 1,246; one steer 1 year old, 1,338; one steer 1 year old, 1,249; one steer 1 year old, 1,193.

Dexter Curtis, one cow, 1,833; one cow, 2,042; one cow, 1,936.

The *Western Rural* gives the results of the slaughtering of three grades, which it thinks sustains the position that there is no better animal than the Short-horn, especially when price is considered:

	Hereford.	Short-horn.	Devon.
Gross weight .....	1,963	1,794	1,614
Head .....	55	47	49
Hide .....	106	90	95
Gut .....	113	97	95
Rough .....	178	155	145
Fore Quarters .....	735	611	552
Hind Quarters .....	592	568	503

The *Rural* adds:

"It will be observed that the less valuable parts are greater in proportion in the Hereford, and that the more valuable, the Hindquarters, are greater in proportion in the Short-horn. It was thought by some that the Hereford had Short-horn blood, which was credited with producing even the comparatively superior merits of the animal."

### The Feeding Virtues of Bran.

In an article under this heading in the *N. Y. Times*, Alexander Hyde shows, from the analysis and manufacture of bran, that it is of very high value for stock feeding, and that Graham flour, (that is, flour retaining the bran) is a more wholesome and nutritive food than flour when bolted. In concluding an elaborate article on the subject, he says:

The conclusion is irresistible that bran has not been sufficiently appreciated as food for stock in past times, and that Dr. Graham was right when he recommended unbolted flour as the best for bread-making. Graham flour is specially adapted for children, as it furnishes the material for making bones and developing good teeth. Some objection is made to the use of bran by farmers, as it has a laxative tendency. This is due to mechanical, not chemical, influences,—the coarse particles, when fed alone, often irritating the intestines, especially at the first feedings, if given in large quantity. This may be obviated by feeding bran gradually at first, and in connection with hay. A slightly laxative condition of the bowels is far healthier than one of constipation; and if children are troubled with the latter, Graham bread is just the food they need.

One great recommendation of bran as food for stock is that it makes the manure-pile so rich. A large proportion of the inorganic matter (ash) in bran is composed of the various phosphates, just what most old soils need, these salts having been carried off in the milk and meat sold. We have seen wonderful changes produced on old farms by liberal feeding of cows with wheat bran. The pastures in a few years have renewed their age. Rye bran is not quite so rich in ash as wheat, but it makes an excellent food for producing milk, as it contains over 12 per cent. of protein compounds, just the thing for cheese-making, and over 2 per cent. of fats. Indeed,

dairy farmers generally give the preference to rye bran, and one reason is that it is finer, and does not induce such a laxative condition of the bowels.

### Wintering Colts.

It should be the especial effort of every horse breeder, within the next month, to see that the foals of the season are in proper condition to be easily wintered. If they are thin in flesh and unthrifty, it will be a difficult task to bring them through the cold and storms of winter safely. They will require much closer attention, more careful housing from storms, and better and more food than those that commence the cold season in good flesh. They should have been taught to eat long before this time, and by following the instructions which we gave a month ago, in reference to feeding, they can soon be got in fair flesh. We do not advocate high feeding on heating grains, with close confinement to the stable, but we do urge that liberal feeding on oats, with a little oil-meal or wheat bran occasionally added, and plenty of grass, with protection from storms, is essential to a perfect development of the colt. We reject *in toto* the doctrine that the way to make a hardy horse is to starve the colt—it is against nature. Starving and freezing in the bleak fields during winter, on the one hand, and pampering on corn in warm stables without exercise, are the Scylla and Charybdis that must be shunned with equal care by the breeder of horses. Both extremes are injurious—it does not pay either to pamper or starve the young things. It will not do to keep them always shut up in a warm stable, nor to turn them out in the fields, to take the weather as it comes. The "golden mean" lies in an abundance of wholesome, nutritious food, with plenty of room to romp and race and play at their own good pleasure, when the weather is fair, and a warm shelter to which they can resort when it storms.—*National Live-Stock Journal*.

### Feeding on Small Farms.

There are many small farms in the Eastern and Middle States, near cities and villages, on which grain and garden truck are raised almost constantly; and the question often arises,—“How shall this system be continued without a ruinous outlay for commercial fertilizers, or the absolute exhaustion of the soil?” Those farmers of this description who have been fortunate enough to obtain manure cheaply from the city or town, have continued to raise good crops for a long series of years, whilst others, not so successful in obtaining manure, have seen the soil constantly growing less and less in production year by year, and yet appear never to have discovered the great resource they may have at their own doors for constant renewal of the fertility of their lands. There is usually a large amount of straw and various kinds of coarse fodder produced upon such farms, which might furnish that part of the ration for feeding cattle; and, by purchasing freely grain, bran, oil-cake, corn-starch feed, malt sprouts, cotton-seed meal, or any of the various kinds of cattle food, man-



ure in large quantity may be made upon each of these farms, the growth in beef paying the cost of purchased food, leaving the fertilizer free. By having well-arranged stables, each of these garden farms may keep one or two head of cattle to each acre; and, under this management, everything raised—not even excepting weeds—will be saved, and turned into active manure for his crops.—*National Live-Stock Journal*.

### Maryland Berkshires.

During the fair season the herd of Mr. A. M. Fulford, of Belair, has been conspicuously triumphant over all competitors wherever exhibited. At the New York State Fair at Utica and the Western New York Fair at Rochester they won first in every class, in strongly-contested rings, and at the Illinois State Fair and the great Fair at St. Louis they carried off these prizes at each, with keen competition, making a total at the four fairs of nine first and seven second premiums, three of the seconds being won in addition to firsts in the same classes. Dr. M. G. Elzey, of the Virginia Agricultural College, who is an excellent judge of stock, says of the Berkshires shown by Mr. Fulford at Rochester, in the *Southern Planter*:

"The Berkshire herd of Mr. Fulford had as well have no competition. This is, in point of fact, one of the very best herds of this breed of swine in existence; and Mr. Fulford, though a very young man, is certainly one of the most skillful handlers of Berkshires in the United States. It is very seldom that so large a proportion of the exhibits of the leading breeders are bred by themselves, as is invariably the case with Mr. Fulford, and that uniformity which might be looked for under the circumstances is very noticeable to the most superficial observer. This is not simply a uniformity of style and markings, but a characteristic excellence in all the best qualities that make up the modern improved Berkshire in his best form."

Mr. F. writes us that at and since the Fairs sales have been good and demand is now active for first-class stock, and that he has on hand for sale the finest lot he ever offered.

### Sale of the Bow Park Herd.

The sale of selections from the Bow Park herd of Short-horns, Clydesdales and Berkshire swine of the Canada West Farm-Stock Association occurred at Dexter Park Stock Yards, Chicago, on October 17, as advertised. The attendance was composed of leading breeders from various parts of the United States attracted by the fashionable pedigrees of many of the animals to be offered.

The sales of Short-horns footed up \$11,230, being an average for the 38 head sold of nearly \$300. The highest price was for Kirklevington Duchess 23d, sold to F. C. Anderson, of Mt. Sterling, Ky., for \$1,000. For Kirklevington Duchess 8th, \$910, to S. White, of Windsor, Ont.

At the conclusion of the Short-horn sale six Clydesdale horses were sold, headed by the stal-

lion Duke of Clydesdale. The following are the animals sold and the prices:

Duke of Clydesdale—Col. Robt. Holloway.....	\$1,800
Princess of Wales—Col. Robt. Holloway.....	800
Duchess—C. H. Bahstide, Victor, Iowa.....	605
Jean—J. P. Blodgett, Wankegan, Ill.....	610
Rosey—Austin Andrews, Youngstown, O.....	750
Darling—Wm. Keyser, Madison, Wis.....	825
Colt of mare Princess of Wales, by Duke of Clydesdale—Wm. Lysett, Bellville, Wis.....	400

After the sale of Clydesdales twelve pure-bred Berkshires, including pigs, were sold for \$219. The entire sale aggregated nearly \$17,000, and will be the means of adding another infusion of fashionable blood into the herds of the West and South.

### Sale of Short-Horns in Harford.

The *Argis* reports that L. H. Long & Son have sold most of the Short-horn cattle exhibited at the Harford Fair, the following being the purchasers:

James Lee, cow Mary Leslie; Johns H. Janney, cow Highbanks Wiley; J. Carville Lee, cow Fern Princess 2d and bull Mason Airdrie; Jas. F. Walker, cows Airdrie Bell 2d and Lady Heddlston 11th; Wm. F. Hays, cows Duchess of Mason 2d and Minnesota 4th; Alfred Mackey, of Cecil county, cows Lady Heddlston 10th and Minnesota 3d; E. M. Allen, Hon. John H. Price and Benjamin Silver, bull 4th Duke of Mason.

### The Poultry Yard.

#### Poultry Rearing by Women.

By G. O. BROWN, Montvue Poultry Yards, Brooklandville, Md.

We have heretofore spoken of the advantage and extra success attending women who take an interest in the poultry yard. Every day we learn of more who are astonished at their success and profits. In this connection we copy from the "*Live-Stock Journal*" (London) the following letter:

SIR—Kindly permit me to give you an idea of my sales and profits? I was formerly an amateur, but am now a professional hen-wife. I confine myself chiefly to Brown Brahmas, and cultivate the egg trade more than that of chickens. Last year my supply of food cost £16; my husband of course paid that. In return, I supply the house with eggs and fowls, and in addition sold more than £60 worth of produce. My hen-houses are very cheap, consisting of old sugar-casks bought from grocers, fitted up with perches and a door; they cost twelve shillings. I always have them locked at night to keep out the foxes. Anyone living near a town will find a poulterer ready to buy eggs at a fair price. I feel very proud that I am helping to destroy the French egg trade, which is a disgrace to England. CAROLINE M. PHILIPS.

Is there any other article that can be produced upon the farm that will realize as large a percentage on the investment as poultry. Cannot any American woman do equally as well? We should be pleased to hear from some of the fair

readers of the *Farmer*, giving us their experiences with poultry.

If a lady is an invalid, what a pleasant, healthful recreation may be enjoyed by having the care of a flock of choice poultry. The exercise, so essential to health, will cause the fair cheeks to soon assume that bright flush, while the inward thought and knowledge of doing something, of having something wholly and truly *one's own*, and which, in return for trouble, (?) will yield a profit, which proves time is in nowise wasted, is a great pleasure, which we are inclined to think is not as much appreciated as it merits show it to be worthy. We are strongly—"yes, by a large majority" in favor of women as poultry rearers. One thing we must admit, when they do turn their attention to poultry, their success is far greater than that of men. No doubt the reason why farmers' wives do not devote more time to poultry is on account of almost unceasing household duties. Where there are daughters sufficiently old enough to assist with the house-work, mothers should care for the poultry, as it gives them just the change of exercise they greatly need. They should *own the flock*; what is realized from the sales should be their legitimate "pin money." Will not some of our lady readers try and see what they can do in 1880?

#### Fattening Fowls.

Fowls to be palatable and tender should be fattened quickly. From eight to ten days is sufficient. Place the birds in a roomy coop in some outbuilding where they will be free from draughts, and in a modified light. The morning food should be given as early as possible, and should consist of good sweet yellow corn-meal mixed with one-third its quantity of heavy wheat middlings; mix with *boiling* water, and in the water should be chandler's scraps sufficient to make the water quite greasy. To every two quarts of feed every other day mix a tablespoonful of powdered charcoal before the water is poured on the feed. Let it stand covered up; after being mixed for 20 minutes, then feed. At noon use the meal, leaving out the middlings, and in its place put in all the table scraps you can get, and some finely-chopped cabbage. Use the charcoal only in the morning feed. At night feed corn that has been boiled until it has swollen twice its natural size. Every other day add to noon feed a little buckwheat, (in grain.) Give water *after* each feed. Warm *sweet* milk is best if you have it to spare; give during the day, but always give water for drink at night. Do not feed anything for at least twelve hours before killing, and let the last feed be soft food; and if you would like a nice gamey flavor to the meat, let it contain a good proportion of chopped celery. Fowls fed in this way fatten very rapidly, and their flesh is tender, juicy and tempting. Try it for Christmas.

G. O. BROWN.

FARMERS should attend Poultry Exhibitions, and see the different breeds for themselves. Don't believe all the wonderful stories interested exhibitors tell you.

#### Watch Your Birds.

Keep a good watchful eye to your birds and for their comfort and well being, and they will amply repay you for your care and attention. A careless or indifferent person is sure to lose, during the season, many a fine and valuable bird, and often the breed is condemned as being so liable to sickness and disease as to be practically valueless, when the real blame for the undesirable result should be attached to the careless owner of the birds. In the fall of the year there is always more or less sickness amongst poultry, on account of the sudden changes in temperature, from warm to cold, and the prevalence of warm days and cold, damp evenings and nights. If the birds are not carefully housed and protected, they are apt to contract some of the disorders incident to poultry, and then the breeder has to pay for his neglect. Doctoring sick fowls is generally very unsatisfactory, for it is too often the case that the sick bird dies before the remedies applied can be made to reach and cure the disease. Aside from this, a sick bird is so apt to infect the other members of the flock that it is generally best to kill the sick fowl and thus save the rest from infection. Cures may be good enough; but then preventatives, in the shape of good care and management, beats them every time.—*American Poultry Journal*.

#### Changing the Males.

Changing the males, or getting new cocks or cockerels for your flocks each season, may and may not be the best possible thing for breeders and farmers to do; some, however, change only every second year. Where a person is or is not breeding pure, but keeps his fowls for their flesh and for their eggs, with no thought of making a profit from the sale of birds as breeders, it is, no doubt, a very good plan to change the males every second year, to infuse new blood into the flocks and thus increase their stamina and consequent productiveness and profitableness. Farmers can generally make such a change with decided advantage, but a breeder of thoroughbred fowls, one who is trying to breed pure and to make his birds to conform, as near as possible, to some particular degree of excellence or to some conceived ideas of special form, size, markings or station, should be very careful how he makes a change, for he may lose a whole season by getting new male birds which will produce offspring running back to stock totally at variance with his ideas of excellence, and entirely different from what he has been, and is, striving so hard to incorporate in his "strain" of fowls.—*American Poultry Journal*.

COOKED vegetables of all kinds, but more especially boiled potatoes, turnips and carrots, are found to be economical food for fowls, and conduce to their health. These should be mashed with thoroughly scalded corn or oatmeal, and occasionally with shorts or wheat middlings, for laying hens.



**Work for the Month—December.**

Closing up the work of the year and making everything ready for the winter's cold, so that the farmer, his household, and his farm stock may be comfortable and hearty, will be now the main occupation of the season.

**The Corn Crop** ought to be put away where it will be secure from depredations of any kind. Fodder and husks should be stored under cover, and where they can be conveniently gotten at.

**Plowing.**—Land that is of compact texture is benefitted by turning over and exposure to the weather, and all that is done now forwards work in the spring.

**Tobacco.**—Stripping ought to be pushed along whenever the tobacco is soft enough to allow handling without breaking. In sorting the greatest pains should be observed, and neatness in this and in handling will more than repay the time and trouble required.

**Manures and Composts.**—Many opportunities may be availed of at this season to enlarge the mass of these. In this connection the report of the Gunpowder Club in this issue may be read with interest and advantage.

**Drains and Ditches.**—Be careful to see that surface drains in grain-fields are not obstructed. It often happens that some accumulation of earth, easily removed by the shovel, interferes with the free passage of the water. Sometimes during this month ditching may be done to great advantage.

**Live Stock.**—How many of the readers of the *American Farmer* have ever taken the time or trouble to calculate the amount of loss to the farming interest of the United States, caused by the common practice of allowing our domestic animals not only to stand still for five or six months of every year, but, in most cases, if the scalebeam was brought in use, they would be found to weigh much less in spring than in the previous fall. It is not enough that our stock should hold their own, for that alone can never pay; they should make a constant gain to give a profit to their owner. Suppose, for instance, the thermometer is at zero, and we have a large living-room for our family; in it we burn one bushel of coal per day and have the room at 32°, and by burning one and a half bushels of coal we can keep the room comfortable; is not the small additional cost of coal money well spent and does it not pay well? Just so it is with our live stock; a certain amount of food is required to make up for the natural waste of the frame; if we allow just that much during the entire winter, when spring comes we will be just where we were in the fall, except the cost of all the food consumed, for which we have nothing to show. Is not this a loss? Then on the other hand we give better shelter, and perhaps half as much food more, and have a good gain on the weight of the previous fall; we all can see how much better a small gain is than a loss, even if it is a small one. If we subject our stock to the northwest winds, with nothing but the warm side of a rail fence for shelter, and give as food a little musty hay or straw, or perhaps some over-ripe and also weather-beaten corn fodder, can they

do other than consume the muscle and fat that was accumulated during the previous summer, when they had an abundance of rich and nutritious food? Hence the man who feeds stock that is not properly cared for is virtually putting his hay and grain in a slow fire that will consume it just as surely as any other fire that is kept up all the time, with perhaps less to show for it.

One secret of honestly accumulating wealth is to take the best care we can of what we have gained; there is no difference whether that gain be in a well-filled granary of wheat, oats or corn, or in fat, sleek cattle, horses or pigs. If the granary has a leak, the loss is apparent to every passer-by; but if those nice 2-year old steers are making a loss of one pound every day for six months, they have just made a loss of 180 pounds for the six winter months; this, perhaps, cost us 3 cents per pound in October, so our loss will be \$5.40, which, added to the actual value of the food consumed while we are accomplishing the above end will show about how the most of us stand when spring comes. The above figures will make some of the many readers of the *Farmer* pause for a few moments and consider whether or not they are pursuing the best plan with their domestic animals by which to make the most money out of them. Putting the money point first will reach the case much more surely than to say anything of the kind, treatment we have so often heard of, that we should bestow on all of the brute creation that we have had given to us for our use. We often see large quantities of wheat straw left lying where the threshing was done, that could, with a small outlay of labor, be utilized in the way of littering warm and comfortable sheds for cattle and sheep, and when spring comes you still have the straw left to spread on the land where it will act as a mulch and do good service a second time. Any one who has been in the habit of watching the supply of milk, even from a few cows kept for family use, cannot have failed to see how much the quantity will be affected by the weather and feed that the cow receives.

The cause and effect are just as sure in the young animal, though not so easily seen or felt by the owner. The same that will give an abundant supply of milk, will give growth in young stock, or fat in those already matured; the only difference we cannot so soon see the effect as in the dairy cow. We have said nothing about the care of horses, not that they need less than our other farm stock, but because they generally receive all the care instead of an equal share with the other stock. How many farmers would not be seen at the village store or church on a bony horse that would cause remarks from his neighbors, but keep a lot of poor neglected steers at home that he expects to sell at a profit next fall, and when fall comes will complain sorely that there is no money in cattle.

**Orchard and Fruit-Garden.**

Where the press of other work and business has delayed the planting of new orchards, and the filling-in of trees to take the place of such as may have died of previous plantings,—if leisure time occurs,—the work can be performed

with safety and success at any time while the ground is yet open and weather mild. If attended to now it will be that much time and labor saved to give to something else in the spring, when the press is still greater upon time and labor. Of the importance of this work being done, we need not write, as every one knows the value of good fruit and a plenty of it, from a hygienic standpoint and principles of economy and profit generally.

The question as to best varieties of each class to plant is a debatable one with three out of every five persons who plant. Many leave the selection of kinds to the nurseryman from whom they purchase, which is a good plan where you know your man. The nursery business, like every thing else, has some craftsmen who are alike unscrupulous as to kinds and price, where too much confidence is reposed; but upon the whole we think the business will compare advantageously with that of most any other trade, calling or profession, as to integrity and intelligence of its devotees; and, as a rule, we believe persons uninformed in fruit-growing are the gainers by leaving the selection of kinds to the nurseryman. We endeavored to offer some suggestions to our readers in our last number upon the subject of what profitable kinds to plant, but in several instances the types cut such antics as to render the names unintelligible: making Moseman out of *Moreman*, and Cranford out of *Crawford*; Bilyeu's for *Bilyeu's*; Hernes for *Heves*, &c. &c., that we feel a little reluctance in writing the names of fruits for printers. (Of course our writing was not in fault?)

YOUNG ORCHARDS will be benefited by a good washing of the trunks and limbs as far as practicable with whale-oil soap, (one pound to four gallons of water,) applied with an old cloth of some kind or stiff brush. If whale-oil soap is not obtainable, soap lees will answer the purpose nearly as well. The washing will rid the trees of all insects and their eggs deposited in the crevices of the bark, as well as keep the bark of the trees in healthier condition.

The depredations of the grub at the collar of peach trees may be lessened considerably next year, by removing the earth from about the collar to a depth of three or four inches, and leaving it exposed during the winter.

IN THE FRUIT-GARDEN, where new beds of strawberries have been planted, a mulching of coarse barn-yard manure will be of service to protect the plants against heaving during the winter, and to keep them in good condition for a strong start-off in the spring.

GOOSEBERRIES AND CURRANTS can be greatly improved by a similar mulching of the soil around them.

GRAPE-VINES can be pruned now, being careful not to remove too much wood from the strong, free-growing varieties, as in so doing the next year's crop will be shortened materially. Leave six to ten eyes on strong canes of Concord, Clinton, Wilder, &c., while Delaware, Iona, Columba, and such feeble growers, can be cut back from two to four eyes.

### Maryland State Dairymen's Association.

The annual meeting was held December 1st, at Central Hall, Baltimore, a fair attendance of members present, and A. Bowie Davis, Esq., of Montgomery, senior Vice-President, in the chair.

The election of officers for the ensuing year resulted as follows: L. A. J. Lamott, of Carroll, President; A. B. Davis, of Montgomery, Chas. W. Michael, of Harford, and Granville S. Harris, of Carroll, Vice-Presidents; C. Lyon Rogers, of Baltimore Co., Treasurer; Wm. B. Sands, editor *American Farmer*, Secretary; and the following members of the Executive Board: John H. Herbert, of Howard, from the B. & O. R. R.; Thos. A. Elliott, of Baltimore Co., from the Northern Central R. W.; Cornelius Cole, of Harford, from the Phila. W. & B. R. R.; L. H. Cole, of Carroll, from the Western Md. R. R.; Dr. C. W. Chancellor, Secretary of the State Board of Health, from the State at large, and John D. Lisle and A. P. Carey, from the Commercial Dairies.

A long and animated discussion took place on a proposition to fix the minimum price of milk supplied by producers, members of the association, to the city dealers. It was urged that milk could not be produced and freights prepaid for 13 and 14 cents per gallon; and that the producer's share was not a fair one of what the consumer had to pay—the average retail price of milk being 7@8 cents per quart, which made the share of the commercial men for mere distribution from 14 to 18 cents, whilst it brought the producer only 14 or at the most 16 cents per gallon. That the increase in the price of hay, corn meal and mill stuff has been so great that the business of raising milk at present figures nets a loss.

The following preamble and resolution was adopted by a practically unanimous vote, and seemed to give satisfaction to all parties concerned:

"In order that the price of milk may be established to give a reasonable profit upon its cost, considering the enhanced price of hay, corn and mill feed, and to put it at a standard which will preclude temptation to adulteration and dilution, by which quality is lowered to correspond with price,

*Resolved*, That this association now fix the price at which milk shall be sold from December 15th, 1879, until May 1st, 1880, at 16 cents per gallon, and the Executive Board be empowered to adopt rules to enforce compliance with this resolution."

The association then adjourned to meet on the first Monday in April, unless sooner convened, to receive the report of the Executive Board, which is charged with the securing of legislation prohibiting the sale in the cities of the State of impure or diluted milk.

### Our Dairy Products in England,

Ten or a dozen years ago the quality of American cheese sent to this country was such as to cause our own cheese-makers to smile; but now the smile is on the other side of the face. At that period, indeed, no one thought for a moment

that we had anything to fear from the quality, whatever we might have from the volume, of American competition in cheese; but now we are beaten all along the line. And this is not so much because the quality of English cheese, on the average, is lower than it used to be, as that the quality of American is so greatly improved. Careful inquiry into scientific principles and scrupulous attention to details of management are the means by which the American factory so greatly improved their dairy products.—*London Live-Stock Journal*.

America as yet does not send the best quality of butter, but there is reason to believe that the export of butter from there to this country will increase in quantity and improve in quality, and may prove more profitable to them than cheese. On the Continent considerable fear exists of the completion of American butter in the English market. The factory system, which doubtless has vastly improved the quality of American cheese, is being applied to butter, and, it is thought, with equal advantage. We think that the factory system in England, which is by no means completely successful when applied to cheese-making, is not likely to be largely applied to butter-making in this country.—*London Agricultural Gazette*.

Commenting on the recently-reported Swiss experiments, adding fresh proof of the advantage of frequent milking, so far as increased richness and quantity of product is concerned, Professor J. P. Sheldon says, in a letter to *The London Times*:

"It is no doubt true that milking three times a day influences favorably both the quantity and quality of the milk, and the shorter the time that has elapsed since the last milking, the richer and the fatter is the milk; but it must be borne in mind that this result makes an increased demand on the strength of the cows, and must be compensated for by a corresponding amount of nourishment, and while it is doubtless an advantage to a deep-milking cow to be milked thrice instead of twice in the twenty-four hours, particularly in the early period of lactation, this additional milking employs additional labor—a factor which a dairy-farmer cannot afford to ignore."

THE LAND AND HOME.—This is an agricultural weekly, the publication of which has been begun in New York City, under the editorial management of Mr. E. H. Libby, late one of the editors of the *American Agriculturist*, and of Dr. E. L. Sturtevant, formerly of the *Scientific Farmer*, which periodical is merged in the new one. The field covered by the *Land and Home* is a broad one; the views of its conductors are enunciated with frankness, and their experience in journalism, with the varied and attractive contents of the numbers already issued, will insure a large number of readers to the new venture, which is clearly and handsomely printed, and unrished subscribers at \$2 a year.

## Horticulture.

### The Best Winter Apple for Maryland South of Baltimore.

Messrs. Editors *American Farmer*:

A correspondent from Anne Arundel Co., in November No., enquires about winter apples, and asks particularly about Shockley, Nickajack and Nansemond Beauty. As to the last-named, it being a comparatively new variety, I doubt whether a satisfactory test has yet been made such as would be necessary to establish its character "for better or for worse." I never saw the apple but once (in '77, at the American Pomological Society's exhibition in Baltimore) and was considerably disappointed in its appearance. I should never have identified the fruit from the rose-colored description which brought it to public notice; indeed, if the plate containing the fruit had not been labelled, I would have pronounced them second-rate Smith's Cider. So forcibly was this impressed upon my mind that I did not feel entirely satisfied until I had the two kinds side by side growing in the nursery. Here, however, there is sufficient contrast to satisfy the most obtuse observer, more particularly in the foliage than otherwise.

Shockley is too small to ever become very popular as a market fruit. That it is a good enough keeper has been repeatedly demonstrated in this county, and the tree is one of the handsomest growers of the whole apple family. In an orchard for family use it is much more valuable than many kinds that are planted, and another good point in its favor is the fact that it comes into bearing very young.

Nickajack is such a crooked, ugly-growing tree in the nursery that in order to get one to plant it who is unacquainted with the fruit, and who has looked at the trees as they stand bowed and bent in all directions known to the compass, is a feat that must be backed by an unsullied reputation upon the part of the nurseryman. It is, however, no worse in this respect than the old Winesap or the Smokehouse, though the trees of the Nickajack are long in coming into bearing. When grown in good strong soil it is a very fine apple, large and beautifully colored, with considerable of the "stay" in its make-up, but not an apple that deserves to be classed among the best keepers.

If I were asked which is the best winter apple for planting in this State south of Baltimore I would have no hesitation in saying *Limbertwig*. This variety is annually becoming more popular in this section, and deservedly so. True, the fruit is not as large as is desirable with most of planters; but this fact is an advantage as well as a disadvantage, for it is not blown down and destroyed prematurely by high winds to the same extent as are larger-sized apples; and as to its keeping qualities, its reputation is permanently established in that relation with all who have tried it here. This has been a particularly unfavorable season for winter apples; and while nearly every other kind grown in our county has rotted and dropped badly before time to gather from the trees, the *Limbertwig* has stood

the test in a manner far more satisfactory than all others.

It does not make a large-sized tree in the orchard, neither is it a handsome grower; but it comes into bearing while quite young, and keeps it up where anything like good treatment is shown it.

Ben Davis, as your correspondent remarks, is a very vigorous grower, but with me thus far has shown no good qualities as a keeper—no better in fact than Baldwin, which is equivalent to worthless, though I do not wish to condemn it too hastily, as perhaps when the tree attains greater age it may improve, though I regard this hope somewhat slender. I am making a test of fifty-five varieties of winter apples, nearly all of Southern origin, and hope among these to find something better still than the Limbertwig; but if I were planting winter apples largely now, I should most assuredly plant more Limbertwig than all others combined with which I am acquainted.

Very truly yours, J. W. KERR.  
Denton, Caroline Co., Md., Nov. 14, 1879.

### Winter Apples for the South.

*Messrs. Editors American Farmer:*

In the November No. of the *Farmer* a correspondent (G.) of Anne Arundel Co., Md., expresses the wish to be informed what are the best, most productive and most profitable keeping varieties of winter apples for our tidewater soils, and what can be said of several Southern varieties which he names.

Without knowing who has replied, we venture to give the following as our opinion, derived from our own experience, and from the best information we have on the subject; also a brief description of the fruits.

*Shockley.*—This has a wide range at the South. Is a native of Georgia, and one of the most profitable varieties. Flesh crisp, saccharine and juicy. It bears abundantly, keeps well and sells readily. In size rather below medium, roundish conical, and of a pale yellow overspread with red. The tree is of moderately free growth, upright, regular and symmetrical, and is well adapted to light soils. This variety was accepted at the meeting of the American Pomological Society held at Richmond in 1871, and received \* \* Prof. Saunders, of the Department of Agriculture, in a partial list of apples, also recommends this Southern variety; and Mr. Downing has it in his select list of table, marketing, cooking and keeping apples.

*Nickajack.*—At the same meeting of the national society this Southern apple "of forty names" received two \* \* as indicating superiority both for family and market use. It is also recommended by Prof. Saunders in his select list of Southern apples. Fruit large, roundish, skin striped and splashed with crimson; flesh yellow, tender, crisp, juicy, with a fine, rich sub-acid flavor. November to April. This is also recommended by Mr. Downing as a "market and keeper South" in his select list. Hardiness and productiveness are the leading characteristics of this fruit, but the quality is

also good. The tree is upright and spreading, and forms a large head, but with crooked and ugly branches. The trunk, when two or three years old, has singular knobs or warts, varying in size, which are not attached to the regular grain of the wood.

*Nansemond Beauty.*—This is a new variety of the tidewater region of Virginia. It is highly recommended by Mr. Dixon W. Kitchen, an experienced and extensive fruit-grower of that part of the State. Origin, Tidewater Virginia. (Suffolk county claims its origin.) Tree vigorous, spreading; is an annual and productive bearer. Fruit medium, fair, roundish, oblate, slightly conic; skin clear, pale yellow, much covered with rich red of different shades, and, as its name imports, is very handsome. Flesh very white, crisp, tender, juicy; flavor fine vinous sub-acid. January to April. This is one of the most promising of our new fruits, and is becoming very popular in Eastern portions of Canada.

G.'s next question is: "Do the States south of the Potomac raise enough winter apples for home consumption, or do they, like Maryland, depend upon the North for a supply?" Some years we are forced to import apples, and many barrels are shipped to Richmond and other Southern ports from the North; but, as a general thing, our supply of apples is ample.

Whilst on the subject of apples, we would recommend for general purposes the *Winesap* for most soils in Maryland and Virginia. It is very productive and hardy, has a wide range, bears young, and, take it altogether, is the apple.

For hardiness and productive qualities the *Limbertwig*, *Rawles' Genet*, *Ben Davis*, *Rhode Island Greening* and *York Imperial* are among the best of our winter apples.

It is a great mistake to plant many sorts—some are sure to be worthless. A few, properly selected and planted, especially for market purposes, are sufficient; and, if manure and careful culture and attention are given, there can be no failure.

J. FITZ.  
Kewick Depot, Albemarle Co., Va.

### The Grape Disease.

The phylloxera, as will be seen by our Paris correspondence from time to time, continues to make terrible havoc with the grape vines of France, and it has been found necessary, all remedies of staying the plague having failed, to obtain vines and seeds from this country, of varieties which have been found able to withstand the depredations which have been inflicted on the native vines. Not only from France has a great demand arisen for the vines of this country, but from a publication in the *Albemarle* (Va.) *Jeffersonian*, of the 15th inst., we learn that the Monticello Wine Co. of that county has recently shipped to Francisco Llado & Co., Catelina, Spain, 40,000 grape seed of the variety known as Norton's Virginia seedling. An extensive correspondence has been carried on between the Spanish firm and the company as to a strong and vigorous vine, which would withstand the



phylloxera, and it was determined that this variety was the best.

Messrs. Llado & Co. were forced to buy the seed rather than the roots, from the fact that the Spanish laws forbid the introduction of grape plants from a foreign country. Plants of this variety have been introduced into France from this section, and are reported as doing well.

The *Jeffersonian*, alluding to this transaction, remarks:

"This shipment of grape seed and roots from our vineyards into these foreign lands, the very home of the vine, looks like business, and when we consider the fact that our company obtained a premium on its wines at the Paris Exposition it would seem that it is rapidly becoming famous on both continents. This exportation only strengthens our belief that Virginia is destined to become a great grape-producing State, and the fact that her own varieties are in demand in these grape-growing countries demonstrates the superiority of her vines. The company is doing an immense business this season, and will make not less than 25,000 gallons of superior wine. Mr. O. Reiersen, the secretary and treasurer of the company, and Mr. Adolph Russow, the energetic superintendent, are indefatigable in their efforts to extend the scope of its trade, which even now comprehends all the principal markets in this country, and many in foreign lands."

We would suggest to the friends of this growing agricultural interest to be on the alert against the efforts now being made to introduce more extensively foreign wines into this country; we can manufacture all the wine that is consumed in the United States, but the business is still in its infancy, and our vineculturists will not only have to contend with the genuine wines of other countries, but also against the fabrications, which are by far the largest quantity imported, and in which scarcely a drop of the pure juice of the grape is employed in their manufacture. A Frenchman has been on a visit to this country upon this business of reducing the tariff on French wines, and the chairman of the committee in Congress which has this subject in charge is believed to be decidedly favorable to the change, and was recently in Paris doubtless preparing the way for a new commercial treaty by which this important branch of agriculture may be crushed out.

#### Raising Quinces.

The following was read before the Cincinnati Horticultural Society by Mr. Catt:

In order to have thriving trees and fruitful seasons for the quince, it will be necessary to plant them in rich soil, or rather in that which has been made such by deep cultivation, and the addition of well-rotted and well-comingled stable manure. The quince is somewhat impatient of drought, to prevent which, and to afford an equable supply of moisture, deep cultivation

is necessary previous to planting. If properly prepared, the soil can hardly be too rich for the quince. Flat bottom land and deep ravines should be avoided, however, on account of the destructive cold which frequently prevails in such localities.

The root of the quince, in regard to the soil, is exceedingly superficial; it seeks its food nearer the surface, perhaps, than any tree of its size. Many of its fibrous roots are found within half an inch of the surface of the soil. The form of the root will suggest a few hints as to the proper mode of its cultivation. He who cultivates all trees alike, mentally, does his work blindfolded. The standard pear will, as a general thing, bear a deep cultivation, and is the better for it; while the quince, on account of its very differently-shaped root, emphatically objects to any such treatment.

Much of the cultivation given the dwarf, though suited to the pear as a standard, has been too deep for the quince roots, mutilating and destroying that which was necessary to the support of the plant.

The best method, in our estimation, of preventing all growths of grass and weeds is by an effectual mulching, which will nourish the plant, preserve the roots, and go far to counteract their impatience under drouth. A good thrifty quince tree cannot long exist in a strong grass sod. If the sod is allowed, the tree becomes stunted and scrubby, and soon falls a prey to the borer. It needs good cultivation, and pays for it as well as any of the plant family. A slight annual sprinkling of salt is also good.

The quince has generally been regarded as a scraggy, ill-shaped and unsightly object. But when properly cared for, trimmed and cultivated, it is even an ornament (by way of variety) for the lawn. For what is more beautiful than its charming blossoms in spring? And what is more satisfactory than its golden fruit in the fall?

As a general rule (except in particular localities) the head of the tree should start at about two feet from the ground, giving it as much as possible the cabbage-head form. If suffered to branch from the ground, it makes it very inconvenient to attend to its proper cultivation; if allowed to head four or five feet from the ground, the trunk is very liable to be injured by the exposure and to become a victim to the borer. Not much trimming is necessary, except to prevent rubbing and chafing of branches, and the shortening in of new growths, to produce strong, fruit-bearing shoots the following year.

It should be borne in mind, in trimming, that the fruit is produced on wood of last year's growth. All water sprouts should be removed, except where necessary to fill up vacancies in the trees, which may have become thin from any cause. A mode of trimming sometimes seen, by which the tree is made to produce long, lanky arms, bare of all shade, with a tuft of foliage at the extremity merely, is to be decidedly condemned.

With regard to varieties, the kinds most cultivated, and the only kinds worthy of general cultivation, are the apple and pear-shaped quince. The former is generally most esteemed

is a good bearer, and should be most extensively cultivated. The true pear-shaped quince is not much inferior, a good grower, a good bearer, and a longer keeper than the apple-shaped, and hence it may be of importance to cultivate a limited quantity.

### Floriculture, &c.—December, 1879.

By W. D. BRACKENRIDGE, Florist and Nurseryman,  
Govanstown, Baltimore Co., Md.

#### Pleasure Grounds and Greenhouse.

We have long had in our mind's eye the propriety of bringing to the notice of the public the beauty, permanence and adaptability of perennial herbaceous plants in the adornment of our private gardens and public parks. But while we would advocate these as suitable for the purpose indicated, we do not mean to do so to the exclusion or setting aside of such attractive summer bedding out plants as the varied kinds of *Coleus*, *Alternantheras*, *Centaureas*, &c., &c.; which, when massed in beds in the usual mechanical way, either after the ribbon or carpet style, are not less than beautiful during a few of the summer months; provided always that these formal groups are not placed in such a position as to cause an abrupt contrast with natural masses of trees and shrubs.

But weighing all the attractions of such *Harlequin* masses, however much they may please the eye for a short season, they are devoid of that interest imparted to the mind in watching the progress of their development from the time the herbaceous plant springs from the ground to the time its diversified and in many individuals gaudy flowers are produced; and, by making a proper selection, some can be had to bloom during three seasons of the year, and a few of the *Hellebores* will produce flowers even in winter, if but partially sheltered.

Where the grounds are extensive and the surface of the lawn well taken up with trees, either deciduous or evergreen, where it often happens that large spaces are vacant, just here we would plant a solid group of the various kinds of *Yucca*, as *Y. filamentosa*, *flaccida* and *recurvata*, all of which produce freely their tall spikes of white flowers during the summer; they are not very choice in the nature of the soil, and are still farther desirable on account of their strap-shaped leaves remaining green all winter.

Another bold and hardy plant is the *Pæonia*, numerous in kinds, whose flowers are large, many of them fragrant, and being strong growers are well adapted for the outskirts of flower gardens or lawns, and delighting in rich deep soil. We often see single specimens of these planted out on grass plats close to the margins of walks and carriage drives, for which situations they are unsuited, their stems breaking down towards fall, giving them a ragged appearance, and should be supplanted by some neat flowering shrub or evergreen.

Another plant tall and picturesque in its appearance—being from 6 to 8 feet high—is the *Bocconia Cordata*, producing panicles of white flowers. One isolated plant of this on a lawn is a beauty in itself.

Several strong-growing kinds of Grasses are indispensable articles, and by no means to be overlooked while treating of this class of plants; and among the handsomest we know is the striped-leaved *Arundo Donax*, and then there is the two beautiful varieties of *Eulalia japonica*, one of them having the white stripes on the leaves running lengthwise, the other having a band of a creamy-white color crossways. To these may be added two green kinds, viz: *Gynierium argenteum* or Pampas Grass, and *Erianthus Ravennæ*. This last and the *Arundo* are the strongest growers.

We now come to consider some genera, the species and varieties of which are neat, showy and profuse bloomers, well adapted for the flower garden—either planted out in groups or beds bordering walks; but in grouping it is very necessary to know how high the kind will attain, as well as the color of the flower. The first we will bring under notice will be some of the beautiful varieties of *Phlox*, emanating from *P. decussata* and *P. pyramidalis* or *omniflora*, and of these varieties that we know to be good are *Argus*, *Arlequin*, *Brilliant*, *Figaro*, *Henry Martin*, *Jules Favre*, *Madame Rœmpler*, *Virgo Maria*, (a pure white sort,) *Victor Tissot*, *Phileas Fogg*, *M. Thibaut*, to which may be added about 100 fine varieties of various colors from pure white through almost all shades up to bright carmine. All of the *Phloxes* are easily multiplied either by division of the roots or by cutting of the stems during the summer before they become hard. The best time to transplant *Phloxes* is in the early fall, but if the ground is wet and heavy the work had better be deferred until spring.

The varieties of *Delphinium* or perennial Larkspur are numerous, and the majority of kinds produce flowers of an azure-blue color, a number having white pupils in the centre; all are of easy cultivation, and the flowers are well adapted for the making of table and other bouquets; the double kinds are increased by dividing the roots, the single kinds are readily raised from seeds, which they produce freely: of the kinds we know to be good are *Alopecuroides*, double; *Barlowi*, single; *Atrorivoloceum*, double; *Formosum*, single; *Nudicaule*, single red. There are also a number of free flowering varieties as sports from *D. Chinensis*, which have been long in cultivation and are very desirable.

There are few plants more neat and showy than the *Spiræas* or Meadow Sweets. The double kinds of *S. filipendula* and *S. ulmaria*; then we have the single sorts in *S. palmata* and *lobata*, with several other of great merit from Japan and China; they are all of them that have under our notice quite hardy and easy to multiply.

We shall continue to enlarge on this subject next month.

#### Greenhouse.

Some time ago we cautioned the operator in the greenhouse against keeping up a high temperature in early winter, say about 45° during the night, and then allowing it to rise to 60° during the day; and when moderate weather prevails, a gentle syringing overhead in the morning and the admission of a little fresh air is highly conducive to the well-being of the



plants; observing at the same time not to saturate the roots too highly with water, but paying attention where it is given that it penetrates to the bottom of the pot.

Do not permit the roots of young *Mimulus*, *Calceolarias*, Chinese Primroses and *Cinerarias* to become matted in the pots before shifting them into larger ones; and with *Geraniums* wanted to bloom in spring pursue the same practice. *Calceolarias* and *Mimulus* thrive best in a cool part of the house, while Chinese Primroses require to be kept warmer and at the same time near to the glass.

*Epiphyllum truncatum*, *Heliotropes* and *Coleus*, if placed in the warmest situation the house affords and supplied occasionally with a weak dose of liquid manure, will amply repay for all the trouble. *Mignonette* in pots does best when it receives a good supply of light and a moderate quantity of water.

Seedling Pansies, after they have made 4 to 5 leaves, do better if removed to a cold frame or pit, where they can either be grown in pots or planted out in a bed of rich soil; if treated in the latter way, the largest flowers are produced.

When *Verbena* cuttings are well rooted, pot them off singly into 3-inch pots; or as some people do, put 5 or 6 plants into a pot of the above size, and then in spring separate them; this last method takes up less room during winter.

We would again remind the gardeners (and plant amateurs) who have a greenhouse under their control, that, if industrious, they can, during the winter months, raise many young plants from seeds and cuttings that will be found very useful in spring towards the decoration of the out-door garden, and then, if not wanted for that purpose, think of what pleasure it will afford you to present a few to some esteemed friend; true lovers of Flora are usually generous!

After the *Chrysanthemums* are done blooming, cut them down and place the plants away in a cold frame, or under the front of the greenhouse stage, so as to give room for *Calla Lilies*, *Azaleas*, *Camellias*, &c. The latter will now be opening their flowers, and should therefore be kept moist at the root, and the atmosphere held humid by sprinkling the floor of the house; *Camellias* will drop their flowers if kept in a dry atmosphere, but do not syringe heavily overhead, as much water will injure the flowers, particularly the white ones. Where the collection is a mixed one, it is better to keep *Camellias* in a suitable part of the house by themselves, so that such insects as *Thrips* and *Red Spider* can be kept in subjection by a free use of the syringe where found on other plants. W. D. N.

#### Vegetable Garden.

There is no well-defined line betwixt farming and gardening as practiced in this country; but here and there a striking peculiarity, pertaining to one or the other, may be noted. The plowing in of green crops, so beneficial on the farm, counts next to nothing as a manure in the vegetable garden. When I turn down 75 tons or

upwards of well-rotted barn-yard manure on an acre of my best land, I feel reasonably sure of a profitable crop of any of the leading kinds of vegetables; with half that quantity a propitious season may in part make up, but the chances are all against the profit of the crop. Now, if a gardener should live long enough to plow down 3 tons of clover annually for 75 years in succession, he would not in all that time apply as much plant food as he now does at a single plowing. I was drawn to this conclusion the other day on surveying my tiny heap of vegetable mould obtained from many tons of grass, weeds, leaves and vegetable refuse. It is doubtful, I think, if the total amount of green crop mentioned above, 225 tons, would "pan out" 75 tons of well decayed plant food, to say nothing of the inferior quality of the manure so obtained. For all I know the chemist may take me to task for this last assertion; but, with present light on the subject, I should still prefer the stable manure. Looking at it in this way it required an exuberance of faith to believe that the best clover-field amounts to much as a manure for the garden. Of its beneficial effect as part of the rotation (when the land can be spared) I am well convinced from observation the present as in previous years. Its mechanical effect on heavy soils is also of some value, and what little manure is in it is of course spread evenly over the whole plot; but the gardener who has the same faith in the manurial value of green crops that some of our sanguine farmers seem to have I have not yet met with.

There must be some enormous yields of root crops this season not yet reported. My beet crops, enveloped in weeds half the summer, were a splendid lot nevertheless. I measured one cow-beet; it was 3 feet 2 inches long, and weighed 17½ lbs. Turnips sowed in rows 2 feet apart and thinned to 10 or 12 inches were an even and fine crop. No broadcasting can give an even crop.

"December 3d, 1877. There has been a steady and severe frost since the 29th ult. It is clear that most of the crops should have been housed before *Thanksgiving*." This I copy from my note book. What has once happened may occur again, and if crops that are not frost-proof are still standing, they should be saved at once. Small lots of cabbage may be heeled in for the sake of the sprouts that may be got from them in spring, but when in quantity they had better be set close together upside down, and well covered with leaves or litter. They are easily got at in this way, and keep well with me. It may be well to cover part of the strawberry crop to ascertain whether such covering is of any real value in this latitude. Cover the ground alongside the crop, but barely hide the plants.

Those who have the advantage of a vegetable house with slight heat will find the end of the month to be an excellent time to sow cabbage, cauliflower and lettuce for spring planting. Cabbage plants so raised will not run to seed, and generally do better than those sown in the fall. Leeks had better be lifted and entrenched like celery for convenience of access during winter. Same with horse-radish, not forgetting to save the side branches for sets.

**RASPBERRIES.**—The *Bristol* and *Hudson River* Antwerp were killed to the ground last winter; I intend to bend them down and cover them this. The *Philadelphia* and *Brandywine* stood the winter well. Getting manure, or *trying* to get it, is something to think about and act upon in December.

JOHN WATSON.

### Vegetables—What they Are and What they are Not.

*Messrs. Editors American Farmer:*

Having received the past spring from the Department of Agriculture a few packages of vegetable seed, together with a request that I should report on the same, I thought, perhaps, that the results of my experience with them would prove acceptable and of some worth to your admirable paper and a few of its host of readers. The following is the result, with freely expressed opinions of my own:

First on the list I place with all *due* respect to its worth as an excellent vegetable that extensively advertised *pea*, McLean's Blue Peter.—This is described as "a very superior dwarf pea, very productive." My experience does not confirm that statement by a long way, however. The seed were sown the 12th day of February in a spot as rich as could be wished, and, I confess, they took their own time in growing and blossoming, besides taking one month to fill. I was disgusted. They have small, insignificant pods, no two of which were produced on the same stem, containing four or five peas, and nothing more can be said about it, except that it is a failure, complete and finished. Landreth's Extra Early, planted a month later, ripened with it.

There was also a variety of musk melon named outrageously—Hackensack—and described as "sweet as honey; melting and delicious." All I care to say about this may be embraced in the following sent to the Agricultural Department: "Failure; flavor like lukewarm water."

A mysterious cucumber came with the rest under the name of Tailby's Hybrid, which, by the side of improved Long Green, is simply insignificant beyond description. It may be a good kind, however, only the Long Green is so much superior.

Henderson's Early Summer Cabbage is undoubtedly an acquisition, but it failed totally with me on account of severe drought.

Hollow-crowned parsnip fully sustained its well-deserved honor as the best parsnip grown.

Onion, Giant Rocca, failed from drought; it showed traces of commendable nature, but does not seem to stand heat. Three inches in diameter is not a bad showing from seed.

Tomato, Canada Victor, is an excellent variety in my opinion, decidedly preferable to Trophy for family use. A constant bearer, and ripens to the stem; vigorous, upright growth; flavor exquisite.

W. G. Ivy.

Warwick Co., Va., November 21st, 1879.

## The Grange.

### The National Grange

Met in annual session, November 20, at Canandaigua, N. Y.,—49 members, representing 29 States, present at the opening. The first day was consumed in hearing an address of welcome from W. M. Wayne, of N. Y., a reply by J. N. Lipscomb, Master of South Carolina State Grange, and the reports of the Master, Lecturer, Treasurer and Secretary, and the reception of various resolutions, which were referred to appropriate committees.

On the second day the committees were announced, including the regular standing committees and two special ones, provided for by resolutions,—one to consider the condition of American agriculture, and to report such measures and policies as will tend to afford relief from the difficulties which now beset it, and to suggest some method to restore to American farmers greater prosperity, and promote their social and material welfare; the other to prepare an expression of sorrow for the loss of members deceased. A number of amendments to the constitution were proposed. Members from the States represented made reports of the progress and condition of the Order in their respective States. In the evening, Rev. Thomas K. Beecher, of Elmira, N. Y., delivered an address to the Grange.

On Friday, the third day, other amendments to the constitution were considered, the Master's address was appropriately referred, and the interests of the Order generally discussed.

Saturday was mainly occupied with the election of officers, which resulted as follows: Master, J. J. Woodman, Mich.; Overseer, Put Darden, Miss.; Lecturer, H. Eshbaugh, Mo.; Steward, Wm. Sims, Kansas; Asst. Steward, A. J. Vaughn, Tenn.; Chaplain, S. H. Ellis, Ohio; Treasurer, F. M. McDowell, N. Y.; Secretary, W. M. Ireland, D. C.; Gate-keeper, O. Dinwiddie, Ind.; Ceres, Mrs. H. H. Woodman, Mich.; Pomona, Mrs. Mary L. Darden, Miss.; Flora, Mrs. E. M. Nicholson, N. J.; Lady Asst. Steward, Mrs. Wm. Sims, Kansas; Executive Committee, W. G. Wayne, N. Y.; D. Wyatt Aiken, S. C.; H. J. James, Ind.

On the fifth day a favorable report was made by Committee on Constitution, providing for biennial instead of annual meetings of the grange.

Resolutions were adopted requiring that all officers of the Order, especially of the National and State Granges, shall be members in full standing in some subordinate Grange and clear on its books, the regulation to take effect three months from the date of its passage; endorsing the proposed World's Fair at New York in 1883, and recommending all State and subordinate Granges to co-operate in making a display worthy of the Order and of the agricultural interests of the country; endorsing the proposed organization of a National Agricultural Society, and recommending the appointment of three delegates to attend the convention to be held for that purpose in New York city, December 10.

A series of preambles and resolutions was unanimously passed by a rising vote, deprecating

sectional feelings and jealousies in political matters, and the reviving of issues settled by the war; pledging the National Grange anew to labor to the extent of its ability for the social and educational advancement of members of the order and their material prosperity, and inviting all farmers, their wives, sons and daughters, to join the ranks of the grange and unite in one grand effort to give the agriculturists of America the intellectual and social standing they have earned, and to agriculture political recognition.

Tuesday, the sixth day of the session, was devoted to consideration of proposed changes in the constitution and to an address from Dr. Collier, chemist of the United States Department of Agriculture, who presented a letter from the commissioner expressing the earnest desire of the department to cultivate close relations with the great body of agriculturists throughout the land.

We have no further reports of proceedings as we go to press, but business was being pushed forward, and it was thought that an adjournment would be reached by Nov. 29.

#### The Maryland State Grange.

The annual meeting of this body begins at Raine's Hall, southwest corner of Baltimore street and Post-Office avenue, Baltimore, on Tuesday, December 9th, at 2 P. M. A large attendance is expected, as business of importance is to be considered, and this is the year for the election of officers. Every subordinate grange in the State is entitled to send as its representative its master and his wife, when she is a Matron, and should there be a vacancy may elect as delegate to fill the place any fourth-degree member.

#### The West Virginia State Grange

Met in Martinsburg, November 5th. Hon. James H. Grove, of Jefferson, made the address of welcome, appropriate and eloquent. The prospects and condition of the organization were reported to be in a flourishing condition and the grange work proceeding satisfactorily. On Thursday afternoon the Hon. Mortimer Whitehead, Lecturer of the National Grange, delivered a very instructive address, which was listened to with attention.—*Martinsburg Statesman*.

#### Montgomery Co. Grange, No. 7.

*Messrs. Editors American Farmer:*

The regular quarterly meeting of Montgomery Co. Grange, No. 7, was held at Barnesville, October 30—one of the largest and most enthusiastic meetings we have ever held, the eight granges in the county being represented by twenty-nine delegates, which is very encouraging from the fact that Barnesville is situated on the borders of Frederick Co.; some of the Patrons drove twenty-odd miles by 10 A. M. The local grange there is in a very prosperous condition, with a large, well-furnished hall of their own, having a store-room below in which I noticed various articles of merchandise.

Bro. F. A. F. Chiffely was appointed a special delegate to confer with the committee of the State Grange to draft bills on the various subjects of interest to agriculturists, and urge upon them the following points:

1. Fertilizers—protection from adulterated articles.
2. Prevent speculation in the form of combinations to control the market.
3. Breach of trust made a punishable offence.
4. Judiciary should be remodeled by the enlargement of the jurisdiction of magistrates, arbitration, &c.
5. We need an Agricultural Experiment Station to test seeds, fertilizers, &c.
6. Public roads; some measure to secure thorough repair.
7. Temperance can be promoted by wise legislation.
8. Tramps—the nuisance has been abolished in some States by stringent legislation, and could be here.
9. Sheep husbandry should be protected.
10. Public expenditures could be reduced by affixing moderate specific salaries to public offices, and abolishing all fees and perquisites.

On motion of Bro. Isaac Young the idea of a two days meeting at Rockville in the summer of 1880, with an exhibit of all the products of our labor, and with essays read on stated subjects, was agitated and referred to the subordinate granges.

In the afternoon W. Master McDonald explained the 5th degree, and gave the obligation and P. W. to a large number of 4th degree patrons.

W. Lecturer Farquhar read an address showing the need of plain, simple laws that do not require a lawyer to interpret them, illustrating his remarks with extracts from law cases where different judges gave different constructions to same laws. After a rising vote of thanks to the members of Barnesville Grange for their hospitality, grange adjourned to meet at Gaithersburg in January.

#### In Memoriam.

At a meeting of Myrtle Grange, No. 106, A. A. Co., Md., held October 8th, 1879, the following resolutions were unanimously adopted:

WHEREAS, It has pleased an all-wise Providence to remove from our midst our beloved sister and friend, Minnie V. Merritt, therefore

*Resolved*, That the example of her life and her many noble virtues be emulated by every worthy member of the order, and that we deeply sympathize with the family and friends of the deceased in their irreparable loss.

*Resolved*, That the vacancy created in this grange through the death of our much-beloved sister, while it causes general sorrow, shall yet chasten our spirits to a greater devotion to the principles of our noble sister and stimulate us to lead more perfect and blameless lives.

*Resolved*, That these resolutions be recorded in our Book of Records and a copy of the same be sent to the family, and also to the *American Farmer* for publication.

WILLIAM A. SHIPLEY, }  
R. L. SHIPLEY, } *Com.*  
ANNIE SHIPLEY, }

### Home Department.

#### An Old Custom Which Ought to be Revived.

It were well if those lovers of antiquities who cherish everything which has descended to them, or may be supposed to have done so, from ancestors more or less remote, however ugly or defective it may be, would bear in mind that in the course of time their own belongings may possess a like value; and therefore it behooves them to have a care that there may be left to those descendants some of the beautiful things of our day.

Seemingly the mania for old things has destroyed all sense of the value of new ones, especially in table furnishings; valuable, and likewise beautiful, china, cut glass and silver, are left to the merciless handling of servants, notwithstanding they may have an acknowledged genius for breaking things in a manner which ought to cause the lady or ladies of the establishment to blush for their own uselessness, instead of bewailing the carelessness of the servants. To see the waiter piled up with delicate china and glass, the unique and tasteful designs of which should inspire almost anyone with such a regard for its preservation as might ensure its dainty handling, and then to be carried out by clumsy hands to the butler's pantry or kitchen to take the chance of the rough ways of Bridget or Dinah, seems a sacrilege.

What has become of the old-time custom when ladies would have a suitable vessel with hot water and cloths for the purpose brought to her before she left the dining-room, and with her own hands wash, wipe and place all the finer appointments of her table? Nor was it an unpleasant task. In many households it was, and in a few exceptional ones it continues to be not only to the mother, but to different members of the family, a most enjoyable time; where free and easy discussion of whatever is of most interest just then, keeps not only members of the household but visitors lingering about, sometimes lending a helping hand, and always watching with more or less interest the dexterity of the experienced house-wife in the handling of her tea-towel and china. Nothing displays a woman's personal charms more than some womanly employment; and I doubt whether there is any other in which she may do so more effectually than in this pure womanly one, of caring for her household valuables. This habit cultivates a just and becoming regard for one's personal possessions, and serves to give them an historical value to our children and their children in after years, and promotes frugality both in ourselves and them. The universal yielding to fashion which leads to so much furnishing and refurnishing to suit her every whim, is bad enough in the parlor and bed room, where it leaves nothing for associations to fasten upon, but at the family board it is unpardonable; here at least there should be some attachment for the things we handle so freely, and the family cheer which may be supposed to have hovered about them would help

to make of them in after years sacred mementoes, and when one and another of those who have encircled the table shall have been scattered abroad, do not even the cups and saucers they were wont to handle still speak of the absent ones, and also bid them welcome whenever they return to their old places again?

I once met somewhere in print the idea that if a gentleman would, in the matter of dress, have one particular article perfect from which to tone the rest, he would be sure always to impress others with the gentlemanliness of his appearance. Whether it were his linen, his boots or his hat, (but it must be something seemingly next to his person,) the next might then be only an approximation to it, yet the effect would remain. I have very much the same view of this habit of the lady of the house washing her own china, glass or silver; if she is careful about this, the care will extend to other parts of her house. If she cultivates an affection for her possessions here, the feeling will extend from this to her linen closet, and so on throughout the house; moreover, in our regard for the things which belong there we may become less willing to change or part with those we use in other portions of the house. In these days, when artistic talent is cropping out everywhere, why not make of the washing of our china a fine art, and the placing of it exact as science.

CERES.

#### Pleasant Sights and Squares of Philadelphia—Autumnal Beauty along the Delaware, &c.

Philadelphia has an advantage over Baltimore in the number and beauty of its public squares,—those necessary breathing places, or, as they have been called, lungs of a great city. These are not, as with us, on the edge of town, in fashionable quarters or suburbs, accessible only by cars or carriages of the rich, but in the heart of the city, where they are most needed. In the rear of the State House is a space handsomely laid out in grass entirely unrailed, and ornamented with masses of choice large geraniums in full bloom. This with us would be equivalent to having such a resort on or near the busiest part of Baltimore street. New York has Madison Square; Boston its splendid Common; and every city, town and village of the new world should reserve some such attraction in its very centre. This feature helps to make Paris delightful to strangers, though every such place has some frightful association of the reign of terror or the commune. I was surprised in a late visit to the Main Building to find so many attractive objects still in the great hall; so that when the vast organ pealed forth something of the former spirit of the place came over me.

There are fine large paintings; Mrs. Maxwell's Rocky Mountain collection of birds and animals, with well-imitated natural scenery round them; gigantic reptiles and beasts found imbedded in marl; one of a huge lizard entire, from New Jersey, measuring fifteen feet. A national hall which should contain such objects is needed. Where else can one be found waiting with such associations and of such dimen-



sions? One of the curious sights of the city is the dry goods house of Strawbridge & Clothier. A single story of their great building is devoted to mailing samples to customers in different States. Thousands of yards of goods, including silks, are cut in narrow strips by machinery, labels printed close by, with price, width, etc., attached,—six hundred such samples being mailed daily. One hundred and fifty thousand dollars worth of goods are in this way supplied yearly to customers hundreds and thousands of miles away.

The Zoological Gardens have made rapid strides,—an illustrated guide to them being published. We found more to interest and please in a ramble through them than in the long-established famous ones of London. The prairie-dog village is exceedingly curious. In the seal ponds are seals from the Pacific. These creatures sleep on the surface of the water, living at sea eight or nine months in the year, and when on shore remain three or four months without food or water.

The mildness of our Indian summer weather led me to take a trip on the Delaware to Bristol, passing picturesque landings, with drooping willows, sloping banks, yet green and sunny, where little boats lay idly beached, and trees framing in homesteads in the background, themselves turned to autumnal gold. The day was one of perfect beauty, the boat gliding along so quietly one could hardly realize it was in motion. Now and then, as we neared some pleasant landing, the bell of the "Columbia" was struck, a plank laid from the boat to the shore; a few passengers hurried forward, and in a moment their connection with the boat and its voyage was severed.

Radcliffe street, Bristol, lies along the river, each house in a garden setting of green, the piazzas vine-covered, forest trees a little removed from the house; glimpses of the Delaware, now deep blue, again liquid silver, gleaming through openings in the branches.

I walked up the street, looking at the hues called out by frosty touch of autumn's fingers. They were far more brilliant than the luxuriant green of summer. And I thought as I gazed at their beauty of that colder and more dreaded touch of death, through which only man can rise to immortal life and bloom.

MRS. J. B. MOORE BRISTOL.

*Philadelphia, November 15th, 1879.*

### Darning.

What mother, especially if she numbers boys among her family, does not take up her week's darning with a martyr spirit! There seems to be an impish propensity in socks especially, to be out at heels and toes. Unlike other branches of needlework, there is no such thing as closing it up for the season; each week brings with it the basket piled up and running over, with no chance for a respite, winter or summer; and our own self-respect could never survive a hole in the stocking of anyone for whom we are

responsible, although our men and boys are not nearly so exacting on this point as they are about "buttons." It would seem, however, that they must enter to some extent into our feelings on the subject, since their over-wrought feelings on disagreeable matters generally are very apt to express themselves in the very words of our ever-recurring task.

There is, however, a cheerful view to be taken even of the week's darning; it insures to the busiest feet a season of rest, and to the busy mind a chance for reflection; nor is the comfortable sensation one has, as each pair is weekly laid aside with the feet drawn into the legs, ready for use, to be lightly valued. Whether those with only just a little break here and there, and therefore a promise of long acquaintance in the future, or those over which we have labored long and oft, and yet cling to with many doubts as to their deserts, are most interesting subjects of contemplation, is to me a question. One tells us that for a while our task may be shortened, and thus, perhaps, make the way for some coveted indulgence, while the other is full of the sense of difficulties overcome, and into them are woven many a solution of domestic problems, and many a tender thought of the beloved wearer which has helped the heart to grow more loving and more hopeful.

Ah, no! darning is not to be despised; yet we will not lose ourselves in the poetry of it, and forget the practical point we had in view when the subject was introduced. There is much to be said as to the manner of performing this nice operation, but most of us have been taught what our mothers and grandmothers deemed the best, and very few would listen to any hints that they were otherwise; but there is a supplementary suggestion which they might be persuaded to adopt, as it does not interfere with any preconceived notions. When providing your implements for work it is well to have fine needle and cotton at hand, and whenever there is a gaping hole use the fine thread to draw the edges carefully together, or as nearly so as circumstances will admit; if adroitly done, it preserves the original shape of the stocking, and greatly lessens the amount of darning necessary. Of course it is no substitute for darning, only a preparation for it; and the darning proper should extend beyond and all around the place thus prepared as far as the stocking seems to have become thin from wear. There is, however, seldom any need for the weaving process, which is the special pride of most darners, as the simple "running," if closely and carefully done, will prove sufficient, and the result will be more durable and smoother than the insertion of a space of tedious weaving, with its clearly-defined edges. If the fine thread first used is perceptible after the work is complete, it is easily removed; usually, however, it is entirely hidden. I can assure those who have not tried this method that it is worthy of their attention, and they will reach the bottom of their darning-basket much sooner, and without detriment to the character of their work by so doing. The same practice will apply as well to a rent on other garments; in fact, is of even greater importance in such cases. CERES.



### Hints for Emergencies.

Persons who have fainted should be laid flat upon their backs and let alone.

To stop bleeding from an ordinary wound, apply a wad of cob-web; or else a paste made of equal parts of flour and salt. If, however, the blood spurts out, it is evidence that an artery has been severed. If where it can possibly be done, tie a handkerchief loosely above it, put a stick under that, and then by turning the stick twist the handkerchief tightly until the flow is checked, and hold it there until the doctor comes; if this is impracticable, press as hard as possible with the thumb, near the wound and above it.

If your clothes catch fire, with your own hands press your clothes above the flame closely, and at the same time lie down on the floor, and roll over and over as fast as you can. Any person about should seize a *woolen* shawl, blanket or carpet, whichever is in reach, and with it help to smother the fire, but by no means to wet anything thus used, as the steam will burn as badly as the fire; water may be thrown on, but not smothered on. I once knew an ignorant fellow to kill his little sister by first taking the blanket with which he wrapped her to the well to wet it. The delay and the steam she inhaled caused the death which might easily have been avoided by the use of a little common sense. c.

### Domestic Recipes.

**GRAHAM BREAD.**—Take one cake of dry yeast, such as you get at the grocer's—I like it better than the compressed yeast—dissolve in a cupful of warm water, and make a batter of wheat flour in a bowl about 4 o'clock, and set in a warm place until evening; then take one quart of warm water, large spoonful of salt, and make your batter or sponge, also with wheat flour, and cover in a warm place until morning; then put in two tablespoonfuls of molasses, and make up your dough with your hands with Graham flour; now stand again to rise until light, when it is to be made into loaves and let stand until very light and bake.

**FRENCH PAN-CAKES.**—Ingredients: Two eggs, one-half pint milk, two ounces granulated sugar, two ounces butter, flour and jelly. (1) beat the butter and sugar to a cream; (2) beat the eggs separately, the yolks to a cream, and the whites to a froth, and add the yolks to the butter and sugar; (3) stir the milk into these ingredients; (4) butter six tin pie-plates; (5) sift two ounces of flour with a teaspoonful of baking powder, and stir it quickly into the above-named mixture, with the whites of the eggs; put the butter quickly upon the buttered plates, and bake the pan-cakes brown in a quick oven; (6) dust them with powdered sugar, lay them one over the other, with a little jelly between; dust the top with sugar, and serve them hot.—*Juliet Corson.*

**PUMPKIN-PIE MADE OF SQUASH.**—Take a good-sized crooked-necked squash,  $\frac{1}{4}$  of a pound of butter to a milk-pan of squash. Sweeten to taste. A bottle of cream; one quart of milk, unless too thin. Season with mace, a little nut-

meg, brandy, and rose-water. One dozen eggs, and a little salt; eggs beaten.—*[Farci.]*

**SAUCE FOR WILD FOWL.**—As this is the wild-fowl season it may be a charity, considering the horrid concoctions often served up with such birds, to give the excellent recipe for sauce published by Mr. Haywood in his admirable and interesting essay on the "Art of Dining."—One saltspoon of salt, half to two-thirds saltspoon of cayenne, one desert-spoon of lemon juice, one desert-spoon of pounded sugar, two desert-spoons of Harvey and three of port wine. To be well mixed, heated and poured over the bird, it having been previously sliced in several places, so that the sauce may mix with its own gravy. The bird to be put in the dish without anything.

### Useful Recipes.

**HOW TO DEAL WITH RATS.**—We clean our premises of these detestable vermin by making whitewash yellow with copperas, and covering the stones and rafters in the cellar with it. In every crevice where a rat may tread we put the crystals of the copperas, and scatter the same in the corners of the floor. The result was a perfect stampede of rats and mice. Since that time not a footfall of either rats or mice has been heard about the house. Every spring a coat of the yellow wash is given the cellar, as a purifier, as a rat exterminator; and no typhoid, dysentery, or fever, attacks the family. Many persons deliberately attract all the rats in the neighborhood by leaving fruits and vegetables uncovered in the cellar, and sometimes even the soap is left open for their regalement. Cover up everything eatable in the cellar and pantry, and you will soon have them out. These precautions, joined to the service of a good cat, will prove as good a rat exterminator as the chemist can provide. We never allow rats to be poisoned in our dwelling; they are so liable to die between the walls and produce much annoyance.—*Cor. Sci. Am.*

**TO SOFTEN HARD WATER.**—Take two pounds of washing soda and one pound of common lime, and boil in five gallons of water for two or three hours; then stand away to settle and dip off the clear water from the top, and put into a jug. Can be used for washing dishes or cleaning, and one teacupful in a boiler of clothes, put in after the water is hot, will whiten the clothes and soften the water, without injury to the hands or clothes. I use an old iron pot to make it in.

**FOR WEAK EYES.**—Bathe the eyes in soft water that is sufficiently impregnated with spirits of camphor to be discernable to the smell,—a teaspoonful of spirits of camphor to a tumbler of water. For inflamed eyes use milk and camphor, adding a little more of the camphor than above. An excellent lotion, commended by a leading Boston oculist, is a solution of 10 grains of borax in the official "camphor water" (not the "tincture of camphor.") This is safe and beneficial as an application in any slight weakness or inflammation of the eyes due to exposure or weariness. In serious cases professional advice should always be taken.

# The American Farmer.

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By SAML. SANDS & SON,

At 128 W. Baltimore Street, (sign of the Golden Plow,) Baltimore, Md.

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SAML. SANDS, } Editors and Publishers.  
WM. B. SANDS, }

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BALTIMORE, DECEMBER 1, 1879.

## The American Farmer for 1880.

We think no lengthy or elaborate announcement of the *Farmer* for the coming year will be required of us by our friends and readers. Its course and objects are plain to all men; it seeks to accomplish no other ends, to serve no other purposes, than those which it avows openly. It aims to give the best experiences in farm operations, to record and disseminate what is most useful in the practice of skillful cultivators, to serve as a medium for the freshest thought in its line of work, and to serve as a means of intercommunication between those who are engaged in the common pursuit of agriculture. It is not a newspaper, but it will present from time to time views of the discoveries, inventions and improvements which affect the practice of every branch of farm work, and will seek for the benefit of its readers to keep up with the most liberal progress made in every quarter.

Questions other than those of mere practice or detail, but which affect the farmers' interests, will receive consideration, frank, fearless and timely.

The practical hands which have contributed to make the *Farmer* so long acceptable to the intelligent and reading farmers of its section, will continue in their accustomed fields of labor; the experience of other capable men will be drawn upon, and our list of occasional contributors enlarged, as we expect, by many names

which are synonymous with thoroughness, activity and success.

The *Farmer* will aim to be in the future, as in the past, an educator, a stimulator to improvement and progress. How well it has served its generation is now a part of its history!

Our terms, as already announced, will be as follows:

Single subscription \$1.50.

To all new subscribers, whose names are received before December 31, the Nos. for October, November and December will be sent free.

Three subscriptions will be sent for \$4.00, and to any person sending us five subscriptions and \$5.00 we will send a copy one year free.

If preferred, any person sending us clubs of over five names at \$1.00 each may retain 10 per cent. of the amount.

Remit when practicable by postal money-order or by registered letter. Where fractions of dollars are to be sent, postage stamps will answer. Send three and one-cent stamps.

Our present readers who know of the deserving of the *Farmer* are each asked to get up a club of five subscribers, whereby not only is the price reduced to the almost nominal one of \$1, but a free copy is sent to the getter-up of club. None of our friends but can do this easily.

Specimen numbers will be forwarded to persons who are willing to get up clubs.

**THE YOUTH'S COMPANION.**—When selecting your papers and magazines for the family, don't fail to put on the list the *Youth's Companion*; a periodical that combines so much instruction with healthful amusement, especially for the young, and which at the same time contains something to interest the whole household, from the baby, who crows over the beautiful pictures, to the head of the family. PERRY, MASON & Co., of Boston, Mass., are the publishers. See their advertisement.

## A National Agricultural Society.

We have received a number of circulars urging, in one form or another, the formation of an association to bear this title, and calling for a meeting of those favorable to it in New York city on the 10th instant. By the persistent efforts of the energetic promoters of the movement a more than usual publicity has been given their efforts, and replies more or less favorable to the undertaking elicited from a large number of prominent men in a number of the States.

It gives us pleasure to aid as far as we can any association or institution seeking to further the true interests of agriculture, to widen its

opportunities for improvement, or to enlarge the advantages of its followers; and if such a society is formed it will have our good wishes and as effective assistance as in our power to render. But we think its design is one not probable to be successfully worked out, nor its outcome to come up to the rather extravagant ideas which are suggested by the circulars of its promoters.

The interests, crops, processes and returns of the agriculture of this country are so varied, and, indeed, diverse, that there is little in common between the several sections. The holding of exhibitions, if that be designed by the proposed society, was long since found to be impracticable, except in so far as they partook of the character of the usual State or local fairs. The immense breadth of our country makes the difficulty and expense of securing attendance from any but a limited territory, or of any but a few men of means, and of others who have some personal object to gain which will repay their time and cost of long journeys to meetings. The delivery of essays and addresses fails entirely to attract audiences when the means of their publication and transmission are now so abundant and effective. So that there seems no practicable field of operations opening before such an association, nor any marked promise of its doing more than run a lingering course or dwindle to a local and narrow organization.

We find by our exchanges that those journals nearest at hand, and who seem to understand the motives and methods of the originators of this movement, seem to take substantially the view that there is little need for it and less probability of its abiding success and usefulness.

The *Country Gentleman*, referring to the leader of the movement, who, it says, is Mr. J. H. Reall, "a person in the employment, we believe, or otherwise connected with, the firm of F. D. Moulton & Co., salt importers, and who has acquired some publicity of late in connection with the dairy shows" in New York city, after showing the considerations which will intervene to prevent the proposed society doing profitable work, adds:

"We should regret very greatly to see a name which, if the reality existed, should stand so high as that of a national agricultural society, belittled by any experiment of the sort now contemplated. The sober sense of those who have committed themselves partially to the project must convince most of them, we should think, that it is wholly beyond the probable attainment of any voluntary association, without capital or resources, or the prospect of any—unless, indeed, there may be some scheme for securing its proper endowment which has not yet come to light. It can only serve as an advertising medium, while it lasts, for those who assume its management, and it will receive their support, in all likelihood, precisely as long as it is found a profitable venture in this direction."

The *Land and Home*, the new weekly, published in New York, says:

"National Agricultural Society" is a high sounding name; but "Agricultural Congress" has a loftier sound, and "United States Agricultural Society" admitted of just as broad applications and opened up before its members equally

as wide a field of usefulness. The latter is dead; the second is worse than dead, and, like a sick mule that never knew health, it would be a mercy to itself and a credit to agriculture were it at once deprived of the flicker of life it occasionally shows.

"To make this society all that its name implies, demands a strong combination of our leading agriculturists at the coming meeting, all united with one object—the good of agriculture and the choking off at the first sign of life of every attempt of personal preferment or commercial axe-grinding, which too often destroys the vitality of such organizations.

The *American Agriculturist* says it has little doubt a society will be formed, but what kind of a society it shall be we shall know after the meeting has been held. From the advice it gives, it would seem that it rather anticipates the features against which it gives warning.

"It is absolutely essential to the future of the society that it assume at the very outset a distinct and independent existence. A second point is, keep all axe-grinders to the rear. While we admit that a maker of a mowing or other machine, or of a fertilizer, or other thing largely used by farmers, may be disinterested in his love for agriculture, and ardently desirous for its advancement, yet the public will not believe that such persons can be disinterested, and the success of the society demands that men of this kind take a back seat. But there is another class of those who have a commercial interest in agriculture, those who will put themselves forward, and be active in the society as a means of advertising. All such must be sent to the rear in the organization."

The *Prairie Farmer*, a representative journal of the Northwest, says:

"We understand one of the objects of this organization is to inaugurate a spirit of discipline, so that, while not antagonizing other interests, there shall be cohesion for the general benefit. It has been tried time and again, and has failed."

And the *American Cultivator*, of Boston, says:

"We are most sincerely opposed to any movement or plan which has for its object the formation of any more 'national' agricultural congresses, fairs, or societies. We believe such organizations are not calculated to encourage, aid, or promote American agriculture to any greater extent than they may promote the personal advantage of those engaged in engineering them. They are too cumbersome to be economically and judiciously handled, and are liable to go slow, and ultimately break to pieces of their own weight."

INTERNATIONAL DAIRY FAIR AT NEW YORK.—The Exhibition will be opened to the public December 8th, and continue for two weeks. Exhibits from all parts of the United States, Canada and Europe are invited, and entries may be made any time before December 6. Blank applications will be furnished gratis by writing or sending to the General Superintendent.

### The Short-Horn Men.

The address of the President of American Short-horn Breeders, at their recent convention in Chicago, is full of interest to the breeders not only of short-horns, but as a matter of course to the breeders of other cattle. Although the convention was small, it was composed of representative breeders, and their approval of the address is indicative of its general approval. There is one thing in it we were especially glad to see, and that was a recognition of the fact that the days of fancy prices had passed. The president referred to the severe suffering of the business by reason of the great depression of business, and after congratulating the convention upon the improvement of the times, warned the members of the hopelessness of expecting to receive four or five times the worth of an animal because it was a short-horn.

The *Western Rural*, in approving the remarks upon other portions of the address of the president, adds that "it was commendably severe upon the lukewarmness and ignorance of the American Congress as to the cattle disease. Our Congress does not seem to appreciate that the live-stock interest is a vast interest which should be fostered and protected. It was asserted in the convention that Congressmen were ignorant of the nature of pleuro-pneumonia, and that their ignorance was the result of their not reading agricultural papers. No doubt this is true. So far as our agriculture and its kindred interests are concerned, we might as well have no Congress. President Christie—who is a Canadian—thought the Canadian government would coöperate with us in devising means to eradicate disease from American cattle."

### Adjuncts to Good Farming.

An able correspondent of the *Elmira (N. Y.) Husbandman* presents the following suggestions as to the means necessary to secure success in farming. Every intelligent farmer will, no doubt, heartily endorse all that is said upon the subject, predicated upon the results of his own observation:

Good crops, thrift in the flocks and herds, and wise care in handling the avails, are essential to profitable farming. All these must come as the products of careful—even skillful—management and faithful labor in season. They are never mere happenings; they are sure results of certain forces applied, exactly as the growth of grass and grain crops is dependent on moisture and warmth. If I were to undertake the task of laying down the exact rules, in all their details, for the management of farm affairs I should fail, because, however much knowledge I may have gained from the field of my observations and labor, it cannot be a safe reliance for others, in other fields, with ever-varying conditions and requirements. The science of agriculture is broader and deeper than any one man's experience. I may even add, safely, it is beyond all experience; it is but partly developed; and its great truths, but partially revealed, may

well incite thought in the best minds engaged in its study for years and years, with the certainty that every truth established will be but the vantage-ground from which farther useful discoveries can be made.

Still there are certain general rules essential to profitable farming applicable alike to all conditions and situations. To these I have referred when speaking of wise care, faithful labor and frugal management. To particularize, I may say, wise care means something more than distant oversight. It is the personal attention, by the farmer himself, to all the various labors of his fields, and personal watchfulness over his flocks and herds. I do not insist that his own hands must perform all the work, nor even the greater share of it. That may not be practicable; but he must put his impress upon the farm and all its accessories, or the business will slip away to unknown issues and doubtful results, the uncertain vagaries of chance utterly incompatible with profit. I have not found personal care over all the operations of my farm irksome; on the contrary that has been the chief enjoyment, although it has brought solicitude, and, at times, perplexities that have cost deep study, absorbed thought, and diverted my mind from schemes that seemed to lead away to easy independence. Out of it there have come the triumphs I have achieved, quite enough to satisfy moderate desire, especially when I take into account the gratifying reflection that all the thought, inseparable from the personal care I have given to every interest of the farm, helps me now to more easy management, and without doubt will tend to future profits.

As to the labor—the manual performance—I do not think it worth while to encourage greater efforts than most farmers put forth, especially in what they call the busy seasons. It is not well to incur such bodily fatigue, day by day, as to impede the currents of thought, or to impair the energies of the mind. But it is important that every farmer should have practical acquaintance with every kind of work his farm offers, especially in its regular tasks. He cannot be wholly independent with anything less than such accomplishments. I have considerable delight in the reflection that I can take hold of any kind of work in my fields and perform it skillfully. It is no idle boast to say I can direct the men employed, with actual knowledge of the work that I give them. In the early days of my farming, when grain drills had not come into common use, I counted it a great accomplishment that I could sow seed, even in high winds, with no streaked reminders of unskillful execution when the crops were growing. Many a day I have borne a heavy weight of grain over the soft ground, upon which the regular casts fell from my hand, with delightful certainty that the seed, so scattered, would spring into growth, evenly distributed, while my neighbors waited for the subsidence of high winds that thwarted their best efforts, because they had not learned the lesson that lay at my fingers' ends. My triumph was not in the advantage obtained over them, but rather in the independence that skill gave me, so that an influence commonly retarding brought no delay in my fields. This



is but an instance of the gain attending practical knowledge of the work of the farm. It is obvious that such knowledge must aid greatly in obtaining profitable execution of tasks committed to others.

In the brief scope of a single letter I cannot present elaborate rules of farm economy, even if that were my desire. But it is not. If I am fortunate enough to convey in brief outlines the lessons of my experience, and observation, that may be useful to others, that is all I ask, and it is the extent of my purpose. What I have already said concerning the interest a successful farmer must have in his profession, opens but to the portal of that frugal management through which real success is attained. While it is a part of the broad theme there is much more of equal importance that must be deferred, lest the patience of readers be wearied. My ideas of frugality in farm management have been obtained at great cost, for I thought in my younger days that there was no virtue in economy worthy of my notice. It is not necessary to say, now, how I learned better, for it may appear, by-and-by, as I pursue the course chosen for these letters. For the present I commend frugality as a virtue inseparable from thrift in farm-life, and invite the minds of those who are patient enough to follow these letters to its consideration in a subsequent number.

### Wintering Bees.

This is one of the most important points in bee keeping. Each colony should be carefully examined before it is put into winter quarters, to ascertain whether it has honey enough and bees enough. If it is too weak in bees, then unite two swarms; if short in honey, feed it. Food is prepared by taking two pounds of ordinary coffee sugar and one pound of water, and bringing them to the boiling point.

Protect your bees from the North and West winds. Take off the honey boxes and put an old quilt or blanket on the top of the frames, and place on a cap of straw. Place a protector on the alighting board, to keep the sun off from the entrance when there is a loose snow on the ground; if there is no snow on the ground, leave the protector away from the entrance and let the bees have the full benefit of the sun's rays.

Never disturb bees when it is cold. If bees are long in confinement when there is a loose snow on the ground, and there comes a warm day—warm enough for the bees to fly—take away your protector from the entrance, to allow the warmth of the rays to fall directly on the entrance. Scatter straw in front of the hives on the snow, for the distance of about fifteen feet from the hives, for the bees to alight on, in case any should drop down from cold or other cause.

So soon as the weather becomes warm and bees fly freely, all swarms should be examined to see whether they have queens. If some are queenless, unite the colonies with weak ones that have a queen. Cage the queen about twelve

hours after the colonies are united, as they will sometimes kill her when two swarms come together. Colonies that are short in honey in the spring, ought to be fed, for they require a good deal of food to supply the brood in March and April. They consume more honey at that time than during the three winter months.

I. G. Martin, of Earl township, started into the honey season with twenty colonies. These have increased to thirty. From these he has taken 660 pounds of honey of excellent quality. His colonies are amply supplied with honey for the winter's consumption. He will put them into winter quarters on the summer stands, as is his usual custom, with a protection of chaff, as heretofore described.

### Wonderful Feats with Bees.

His Royal Highness the Prince of Wales, who manifested so much interest in the honey recently exhibited at the Kilburn Show, has been presented with an American beehive. To Mr. Hoge, who explained the method of operating the hive, the Prince expressed an opinion that the stories recorded of Mr. Wildman's command over bees must to a great extent have been mythical; but Mr. Hoge assured his Royal Highness that he could demonstrate to him that they were quite correct and unexaggerated, and, acting upon this assertion, he fumbled about for a little while among the swarm of live bees which he had with him, when they began to cluster about his right hand, assuming the shape and appearance of a huge bunch of grapes. He then worked among the bees with his left hand, and at the word of command they began to shift and settle upon it. Then, placing a tube made of wire gauze between his teeth, the bees began to accumulate about his face and hang like a long beard from his chin. He then coaxed the bees back into the hive. Mr. Thurber, the great honey merchant, says that the secret of Mr. Hoge's and also of Mr. Wildman's control over their bees lies in securing the queen bee, which in Mr. Hoge's case was confined in a wire tube, which all the bees followed from one place to another.—*London Post*.

THE MOST EXTENSIVE BEE FARM IN THE WORLD.—Near the village of Beeton, Ontario, Canada, there is a bee farm which is probably one of the most extensive and successful things of the kind in the world. It consists of four bee-yards situate at the angles of a square which embraces several square miles of country. The current year, so far, has proved favorable for honey. Mr. D. A. Jones, the owner, had at the end of July already secured 50,000 pounds of honey from 620 stocks of bees. The hives used are oblong pine-wood boxes, with a cubic capacity of 3,240 inches, the inside measure being 15 by 18 by 12. The proprietors expect a total yield for the year of 70,000 pounds of honey from his 19,000,000 little workers, in which case he would net between \$7,000 and \$10,000 for the year's product, without taking into account the sale of swarms or queen bees.—*Commercial Bulletin*.



## The American Farmer.

From many appreciative notices by our brethren of the press, we select the following as evidencing the estimation in which the *Old Pioneer* is held:

"Looks as bright typographically as its reading is interesting and instructive."—*Evening Bulletin*, Baltimore.

"The *American Farmer*, published in Baltimore, Md., is the best representative of Southern agricultural periodicals within our knowledge. It is a monthly publication of nearly thirty-five pages, exclusive of cuts and advertisements, and its matter is of the best and most practical sort, devoid of clap-trap and nonsense, and always reasonable."—*Centre Democrat*, Bellefonte, Pa.

"An old favorite with many of our people."—*Spirit of Jefferson*, W. Va.

"One of the best publications of its class that our farmers can secure."—*Journal*, Anderson, S. C.

"The *Farmer* is one of the best and most reliable farm journals published, containing none of the useless slush sometimes found in similar periodicals, but from beginning to end is always found the most practical ideas. Subscribe for the *Farmer* and our word for it you will be more than pleased."—*Tennessean*, Gallatin.

"Varied and interesting in matter: like old wine it improves with age."—*Eastern Virginian*.

"Should be in the possession of every farmer."—*Frederick (Md.) Examiner*.

"A beautiful specimen of typography and a fine compendium of agricultural matters. The truth is, that few know better how to interest the farmers and planters than the gentlemen who edit and publish the *American Farmer*."—*Baltimorean*.

"Always well printed, and its reports from agricultural clubs and practical farmers make it a valuable help to farmers generally."—*Clark Co. (Va.) Register*.

"The *American Farmer* is one of our most valuable exchanges. It is well printed, from clear, bold type, and is noted for the practical and suggestive nature of its contents. These are considerations which should make it acceptable to every farmer."—*Belair (Md.) Egle*.

"Brimful of good practical farming information. We regard it as among the most valuable agricultural magazines of America. May it ever continue to shed its bright rays."—*Fredericksburg (Va.) Recorder*.

"It is designed to help and fitted to help Virginia farmers as well as those of Maryland. It is doing a great work and doing it well."—*Nelson Co. (Va.) Examiner*.

"It is not only the oldest work of the kind in America, but it is the best edited, and has the assistance of a large and valuable correspondence from the most able minds of the country."—*Darlington (S. C.) Southerner*.

"The contributors are all gentlemen of large practical experience in their various departments, thus making it a reliable guide for those less experienced."—*Laurel (Md.) Gleitner*.

"Abounds in seasonable information."—*Montgomery (Md.) Advocate*.

"No farmer who wishes to be up with the times should be without it."—*Farmville (Va.) Journal*.

"Abounds with matters of interest to farmers and gardeners."—*Romney (W. Va.) Intelligencer*.

"That sterling publication, the *American Farmer*, is brimful of timely articles of interest to the farmers of our section. No man who wants to cultivate the soil intelligently should be without some farm paper, and we know none more likely to meet the wants of farmers generally than the *American Farmer*."—*Boydton (Va.) Democrat*.

## Baltimore Markets—December 1.

**Breadstuffs.**—*Flour*.—We report the market for Flour firm in tone under light stocks and limited receipts, but quiet, with business confined to supplying the current wants of local trade. We quote: Howard Street Super \$4.75@5.50; do. do. Extra \$5.75@6.25; do. do. Family \$6.75@7.25; Western Super \$4.75@5.50; do. Extra \$5.75@6.25; do. Family \$6.75@7.25; City Mills Super \$5.00@5.50; do. do. Extra \$5.75@6.50; do. do. Rio brands Extra \$7.25@7.50; Spring Wheat Family \$6.25@6.75; Minnesota patent \$7.25@8.00; Pataspoco Family \$8.00; do. Extra \$7.50; Chesapeake Extra \$7.00; Orange Grove do. \$7.40; Fine \$4.25@4.50; Rye Flour \$5.50@5.75; Corn Meal, City Mills 4 brl. \$2.90; do. do. City Mills 100 lbs. \$1.30@1.35; do. do. Western do. \$1.25@1.30; Western Corn Chop \$1.30; Buckwheat Meal 100 lbs. \$2.75@3.00.

**Wheat**.—Market fairly active. We quote: Southern Fultz \$1.35@1.45; do. long-berry \$1.55@1.62; Western No. 2 red, spot \$1.48½; do. do. do. December \$1.48½@1.49; do. do. do. January \$1.51½@1.51½; do. do. do. February \$1.53½@1.54.

**Corn**.—Southern in active demand, and prices firm. We quote: Southern white, new 56@58; do. yellow, new 55@56; Western steamer, spot 54; do. mixed spot, old 59½; do. do. do. new 58½; do. do. do. December, old 59½; do. do. do. new 58½; do. do. January 59½ cts.

**Oats**.—We quote: Western mixed 44@45; do. bright mixed 46; Southern 46@47; Pennsylvania 47 cts.

**Rye**.—We note the sale to-day of a lot of 150 bu. prime Southern at 85 cts., which shows a slightly firmer market.

**Seeds**.—Clover we quote at 8½@9½ cts. for common to good, 9@9½ cts. for choice.

**Hay and Straw**.—The market continues active and firm at quotations, which are as follows: Hay—Choice Cecil county Timothy \$19@20; fair to prime Maryland and Pennsylvania Timothy \$17@18; mixed Hay \$16@17; Clover do. \$14@15; Wheat Straw \$10@12; Oat do. \$14; Rye do. \$17.

**Mill Feed**.—We still quote City Mills Feed firm, with a fair demand at \$16.50@17 ½ ton. Western middling sold to-day at \$17 ½ ton.

**Provisions**.—Bulk Shoulders, packed, 5; do. L. C. Sides, do., new 6½; do. C. R. Sides, do. 8; Bacon Shoulders 5½; do. C. R. Sides 8½; do. Hams, sugar-cured 10@11½; do. Shoulders, do. 7; do. Breasts, do. 8; Lard, Refined, tierces 8; do. do. tubs 8; Mess Pork, new, ½ brl. \$12.00. *Dressed Hogs*.—We quote at \$5@5.25 ½ 100 lbs., with the market very dull.

**Butter**.—The market is inactive, but steady, with prices generally unchanged, viz: New York State, choice selections 24@25; do. do. dairies 28@30; Western creamery, choice 24@25; do. tubs, choice fresh 24@25; do. do. good to prime 20@23; Western Rolls, prime to choice 24@25; do. do. fair to good 18@22; Glades, selections 23@25; do. dairies 20@23; nearby receipts 22@27. *Eggs*.—Fresh, which are very scarce, we quote firm at 23 cts. for Western, and 24 cts. for nearby, but pickled still sell at 16@18 cts. ½ dozen. *Rice*.—Carolina ranges in price from 6½ to 8 cts. for fair to prime.

**Live Stock**.—*Beef Cattle*.—Very best on sale this week 4½@5 ½ cts.; that generally rated first quality 3½@4½ cts.; medium or good fair quality 2½@3½ cts.; ordinary thin steers, oxen and cows 2@2½ cts.; extreme range of prices 2@2½ cts. *Swine*.—The supply is large and market dull. Prices 4½@5½ cts. *Sheep*.—Good Sheep, which are scarce, are in best demand. We quote at 3½@4½ cts.; Lambs 3½@5 cts.

**Cotton**.—Market quiet but firm. We quote as follows: Middling 12½@12½; Low Middling 12@12½; Strict Good Ordinary 11½@11½; Good Ordinary 11½@11½.

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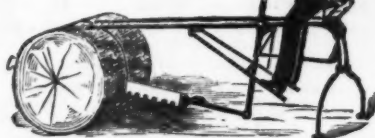
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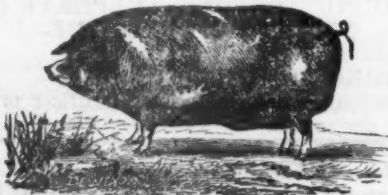
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It is richer in Soluble Phosphoric Acid and Ammonia than any similar article in the market.

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Muriate Potash, Kainit,  
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It pulverizes deeply, and its smoothing capacity is equal to any Harrow I have ever tried.

It stands unrivaled for destroying the toughest sods with its knife-like teeth, perfectly reducing the sod with two harrowings, presenting a thorough seed-bed for any kind of grain or seed.

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SUPERIOR GOODS TO ANY EVER BEEN OFFER-  
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NOTICE.—Among these goods there are elegant  
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\$1.98—In this Department every pair will be sold for  
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\$1.98—Gentlemen's Hand-Embroidered Slippers..\$1.98  
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\$1.98—Gentlemen's Embroidered Velvet Slippers. 1.98  
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\$1.98—Gentlemen's Calf BOOTS.....1.98  
\$1.98—Gentlemen's English Walking SHOES.....1.98  
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\$1.98—Gentlemen's Grain Leather BOOTS, for  
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These are the greatest BARGAINS ever offered in this  
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SPECIAL AND ONLY AGENT FOR BURT'S SHOES FOR LADIES, GENTLEMEN AND CHILDREN.

**GOODS SHIPPED TO ALL PARTS OF THE UNITED STATES C. O. D.**

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## **OIL VITRIOL.**

**MANUFACTURERS AND MANIPULATORS OF PHOSPHATES  
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Having completed extensive improvements and additions to our Works, giving us increased facilities, we are now prepared to execute orders with greater promptness, and deliver goods in much better mechanical condition than heretofore.

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**We offer to the Trade the following Goods, all of which are absolutely Free from Adulteration:**

### **DISSOLVED GROUND BONE,**

Containing 3 per cent. of Ammonia.

### **DISSOLVED SOUTH AMERICAN BONE ASH.**

Containing 40 to 44 per cent. Soluble Bone Phosphate.

### **DISSOLVED SOUTH CAROLINA PHOSPHATE.**

Containing 27 to 30 per cent. Soluble Bone Phosphate.

To meet the demand for a high-grade Fertilizer, we are offering **SLINGLUFF'S NATIVE SUPER-PHOSPHATE**—prepared entirely from Animal Bone—highly ammoniated.

Also, **SLINGLUFF'S No. 1 AMMONIATED SUPER-PHOSPHATE.** This we can confidently recommend as one of the best fertilizers sold in the market at a low price.

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**OFFICE, 155 W. Fayette Street.**

**WORKS, Foot of Leadenhall St.**

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**R. W. L. RASIN & CO.**

MANUFACTURERS OF

# **Chemical Fertilizers**

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**Cotton, Tobacco, Corn, Oats, Wheat, &c.**

**Works, SOUTH BALTIMORE.**

Where they have introduced the MOST COMPLETE MACHINERY for compounding Concentrated Fertilizers, that their great experience has enabled them to so successfully introduce to the Planters of the Middle and Southern States.

## **SOLUBLE SEA ISLAND GUANO**

So well-known and of UNDOUBTED EXCELLENCE.

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A High-Grade Fertilizer of KNOWN MERIT.

## **Dissolved Bone Phosphate**

Prepared from GROUND ANIMAL BONES.

## **ACIDULATED SOUTH CAROLINA and NAVASSA PHOSPHATES**

### **AMMONIATED ALKALINE PHOSPHATE,**

A complete manure, endorsed by the Patrons, who have used it with great satisfaction for the last 5 years, and is on sale by Grange Agents at Baltimore, Richmond, Norfolk, Petersburg and Alexandria.

### **RAW and STEAMED BONES, POTASH SALTS,**

And all Fertilizing Materials in Store and for Sale.

### **SPECIAL COMPOUNDS PREPARED ON ORDERS.**

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